

# **APPENDIX**

## **to the**

### **VJAS Handbook**

#### **2014-2015**

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# APPENDIX A

## Useful Checklists for Papers

These checklists are designed to help the student and student sponsor avoid the pitfalls that disqualify student research papers. The guidelines, procedures and rules listed in the Handbook are very specific and it is the responsibility of both the student and the student sponsor to be aware of them. Check and double-check to assure that your paper is in the proper form as outlined in the latest edition of the VJAS Handbook. The **basic procedures and guidelines are outlined** here for students and teachers to use to double check their submissions. Failure to follow any procedures and schedules in the Handbook or as specified in official communications of the VJAS will result in disqualification.

### CHECKLIST FOR SUBMITTING PAPERS

- There must be an **“ORIGINAL” and four additional (4) copies (i.e., 5 papers total)**.
  - **Mark one in red as the “ORIGINAL” at top and in center of Student Entry Form (Page ONE).**
  - Make copies BEFORE marking the original!!
  - Rubber band the set of papers together, original on top
- Send the **"ORIGINAL" and four (4) copies** (rubber banded together) to the VJAS Office by the deadline. Make at least one additional copy for your files and additional copies for each Special Interest Award or Scholarship for which you plan to apply if your paper is accepted.
- Send paper to the VAS/VJAS Office via first class mail, express delivery, or hand deliver. Please do not request a signature. **All papers must be received in the VJAS Office by February 25, 2015.**
- Send VJAS Special Interest Award Applications Form, paper, and any other requested material to the Special Interest Awards Chairperson by the deadline stated on the form. Follow instructions exactly. **Do not send any Special Interest Award applications until after paper acceptances have been received, but feel free to prepare them early due to time constraints.**

### CHECKLIST FOR STUDENT RESEARCH PAPERS TO AVOID DISQUALIFICATION

#### 1. FORMS CHECKLIST

Papers must have current VJAS forms only.

##### A. The Student Entry Form is page ONE.

- The Student Entry Form (Page ONE)** must be filled out completely and correctly, and a completed copy must be attached (as page one) to the “Original” and to each of the four additional copies. All copies must have both student and student sponsor signatures on them.

- Student Entry Form (Page ONE): **Top left corner.** Enter the **code for the category** in the blank at the **top, left** on pages ONE, and also on pages TWO and THREE. Middle School categories have a two-letter code and high schools have a three-letter code.
- The paper must be entered in the proper **VJAS** category. Science Fair categories as well as other science competitions and VJAS categories are not identical nor are they interchangeable.
- Multiple-authored papers** (maximum of four authors). Check the appropriate line in the top left corner. Each multiple author must fill out his/her own Student Entry Form and have all signatures, but the group of multiple authors uses only one set of Reader and Judge forms.
- Student Entry Form (Page ONE): **Top right corner.** Enter the **school number** at the top, right **side** followed by a **capital “A”** if the author is a **senior**, or a **capital “B”** if the author is an **eighth grader**. The school number, assigned by VAS/VJAS office staff, is provided in the VJAS Member Certification letter sent to the Head Sponsor of each VJAS School Member and to the parents/guardians of each VJAS Individual Member. If you have any questions do not contact the VJAS Director but contact the VAS/VJAS office by e-mail ([vas@smv.org](mailto:vas@smv.org)). Do not guess or use any other number your school might have.
- Student Entry Form (Page ONE): body of the form.** Answer every question including item #7. Must have student’s AND student sponsor’s signature. This is the **ONLY** page on which the student’s name and school name will appear. **Form must be typed.**

***B. The following forms come after the Student Entry Form (Page ONE), in the following order.***

- The **Certification Statement Form** signed by both student and student sponsor, ***if applicable***, and placed after the Student Entry Form and before the Reader’s Form.
- Reader’s Form** (Page TWO) – required for all papers.
- Judge’s Form** (Page THREE) – required for all papers.
- VJAS Mentor and/or Research Facility Form.** ***If a Mentor was used and/or if student worked in a Research Facility***, the VJAS Mentor and/or Research Facility Form must be filled out and placed after the Judge’s Evaluation Form. Also, the Certification Statement Form must be signed and placed after the Student Entry Form.
- Continuation Project Form** must be filled out ***if a student is continuing a project*** and placed after the Judge’s Evaluation Form.

***C. There should be no title page or any other form of identification of the student, student sponsor, or school on any page except the Student Entry Form and Statement of Certification.***

## 2. PAPER CHECKLIST

***A. Rules for formatting the paper.***

- The abstract and body of paper (including all parts of the paper) have been typed/word processed in **double-spaced** format. (Exception: long quotes, figures, legends, within literature citations)

- All margins - top, bottom, and sides are not less than one inch (1") on ALL pages **including appendices.**
- Number the pages**, beginning with the abstract which is page 1. Put page numbers in the **footer**, which can be within the margin and the only exception to the one inch margin.
- The paper is printed in no smaller than 12 pt. type size using one of the following fonts: Helvetica, Times New Roman, Courier, or Geneva; or is typewritten in nothing smaller than 12 characters to the inch. Check it with a ruler!
- Do not use footnotes.** Use parenthetical citations (Author, Year).

**B. Text. The abstract begins the twelve (12) pages of text allowed in the body of the paper. The paper consists of the following sections which should be labeled, with the labels bolded, underlined or both.**

- Abstract (1 page only):** This is the first page of the 12 pages of text.
- Introduction.**
- Methods and Materials.** Do not list materials - use paragraph format.
- Results.** Includes graphs, tables, figures and/or photographs of the summarized data, a written summary of the results, and an analysis of the data.
- Discussion and Conclusions**
- Literature Cited:** This is not a bibliography. It is a list of the literature cited in the text.
  - There must be a minimum of three peer-reviewed/scholarly sources for middle school papers and a minimum of five peer-reviewed/scholarly sources for high school papers.
  - Each must be cited at least once in the body of the paper.
  - List peer-reviewed/scholarly and non-peer-reviewed sources in separate sections.
  - Use APA format, the standard format of the *Virginia Journal of Science* or see the *VJAS Style Manual*.

**C. This ends the text with a maximum of 12 pages. *Papers exceeding this will be disqualified.***

- Do not include Acknowledgments**, as it is no longer permitted.
- Appendix:** This is part of the 20-page maximum. A text of 12 pages allows 8 pages for an appendix. If the text is reduced, the appendix may be increased but only to a maximum paper length of 20 pages. **Experimental design diagrams are to be placed in the appendix, if used. If the project involved participation of human subjects, a sample Participant Consent Form should be included in the Appendix.**

**D. This ends the total paper with a maximum of 20 pages. *Papers exceeding this will be disqualified.***

### 3. EXAMPLE OF PREVIOUSLY USED DISQUALIFICATION FORM

(Used during initial screening of VJAS papers received by submission deadline)

Category Code: (MS=2 letters, HS=3 letters)  
Multiple Author Paper Check Here \_\_\_\_\_

VJAS School Number \_\_\_\_\_

## VJAS Paper Disqualification Form

(completed by VJAS Committee Member)

### This paper has been disqualified for the following reason/reasons:

- Does not comply with basic requirements set forth in the Handbook.
  - margins     type size     single spaced     pages not numbered
  - text length (required sections not within 12 page limit)     abstract too long
  - total paper length (over 20 pages)     student and/or school identified in paper
  - acknowledgements included     footnotes included
  - failure to document in Materials & Methods that “informed consent” was obtained from all human subjects (as described in January 2014 VJAS Sponsor Update)
  - missing entry form and/or other required forms     signature(s) missing on one or more forms
  - Other: \_\_\_\_\_
- Citations
  - in text citations don't match “Literature Cited”
  - improper format: \_\_\_\_\_
  - lack of (or not identifying) three peer-reviewed/scholarly sources
- Proper certification forms missing or not signed
  - vertebrate     human subject     recombinant DNA     tissue/cells
  - pathogenic agents, controlled or toxic substances
  - mentor and/or research facility     mentor form
- Ineligible/inappropriate category. Belongs in \_\_\_\_\_
- Other – explanation: \_\_\_\_\_

# **APPENDIX B**

## **Forms:**

**School Membership Application**  
**Individual Membership Application**

**Virginia School Regions**

**VIRGINIA JUNIOR ACADEMY OF SCIENCE  
SCHOOL MEMBERSHIP APPLICATION (2014-15)**

**Must be received at VAS Office by January 15.** A late fee will apply if received after this deadline.  
Form must be typed (may be typed on screen and then printed).

*Note: An individual whose school is not a member of the VJAS may become a member by filling out the Individual Membership Application. See the Handbook for details.*

**1. School Information**

- a. Complete School Name \_\_\_\_\_
- b. School Mailing Address \_\_\_\_\_  
(Street) \_\_\_\_\_, VA \_\_\_\_\_  
(City) (Zip)
- c. School Phone (\_\_\_\_) \_\_\_\_\_ VA School Region # \_\_\_\_\_
- d. School System \_\_\_\_\_ (see map, page after next)
- e. Science Supervisor \_\_\_\_\_, E-mail \_\_\_\_\_

**2. Head Sponsor Information**

- a. Name of **Head Sponsor** \_\_\_\_\_  
*All VJAS communication will be with the head sponsor ONLY.  
The head sponsor is responsible for the dissemination of information to all other sponsors.*
- b. E-mail \_\_\_\_\_
- c. Home Address of Sponsor \_\_\_\_\_  
(Street) \_\_\_\_\_, VA \_\_\_\_\_ Tel # (\_\_\_\_) \_\_\_\_\_  
(City) (Zip)

**3. Names and E-mails of Other Sponsors** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4. Submission Date** \_\_\_\_\_ (Invoice available upon request from the VJAS Office.)

**School Membership Fee: \$50.00 (\$10 late fee)**

(Payable to: Virginia Junior Academy of Science)

Federal Tax ID # 54-6038285

*(Note: An Entry Fee of \$15 per student will be due with the papers on **February 25, 2015.**)*

Mail completed form and check or postal money order for school membership fee as soon as possible to:

**Virginia Junior Academy of Science  
c/o Virginia Academy of Science Office  
2500 W. Broad Street  
Richmond, VA 23220**

**NOTE:** Check web site (www.vjas.org) periodically for updated VJAS information.

**VIRGINIA JUNIOR ACADEMY OF SCIENCE  
INDIVIDUAL MEMBERSHIP APPLICATION (2014-15)**

**Must be received at VAS Office by January 15.** A late fee will apply if received after this deadline.  
Form must be typed (may be typed on screen and then printed).

*Note. See Handbook for the description and criteria of Individual Membership.*

1. Name of **Individual** (Student) \_\_\_\_\_
  
2. **Parent/Guardian Information**
  - a. Name(s) of **Parent/Guardian(s)** \_\_\_\_\_
  - b. Parent's Email address \_\_\_\_\_
  - c. Home Address (street) \_\_\_\_\_  
(city) \_\_\_\_\_, VA (zip) \_\_\_\_\_
  - d. Home Phone (\_\_\_\_) \_\_\_\_\_
  
3. **School Information**
  - a. Complete School Name \_\_\_\_\_
  - b. School System \_\_\_\_\_ VA School Region # \_\_\_\_\_  
(see map, next page)
  
4. **Sponsor Information**
  - a. Name of **Student Sponsor** \_\_\_\_\_
  - b. Background (check one) \_\_\_ teacher of \_\_\_\_\_ at \_\_\_\_\_ school  
\_\_\_ other: describe science background \_\_\_\_\_  
\_\_\_\_\_
  - c. E-mail \_\_\_\_\_
  - d. School Address (street) \_\_\_\_\_  
(city) \_\_\_\_\_, VA (zip) \_\_\_\_\_ School Tel # (\_\_\_\_) \_\_\_\_\_
  
5. **Submission Date** \_\_\_\_\_ (Invoice available upon request from the VJAS Office.)

**Individual Membership Fee: \$10.00 (\$2 late fee)**

(Payable to: Virginia Junior Academy of Science)  
Federal Tax ID # 54-6038285

(Note. An Entry Fee of \$15 will be due with each paper on **February 25, 2015.**)

Mail completed form and check or postal money order for membership fee as soon as possible to:

**Virginia Junior Academy of Science  
c/o Virginia Academy of Science Office  
2500 W. Broad Street  
Richmond, VA 23220**

**NOTE:** Check web site (www.vjas.org) periodically for updated VJAS information.



# Virginia School Regions

## VDOE Regions

These eight regions have been established by the Virginia Department of Education



Region		Counties			Cities or Towns
1	Central Virginia	Charles City Chesterfield Dinwiddie Goochland Hanover Henrico	New Kent Powhatan Prince George Surry Sussex		Colonial Heights Hopewell Petersburg Richmond
2	Tidewater	Accomack Isle of Wright James City (Williamsburg) Northampton Southampton York			Chesapeake Poquoson Franklin Portsmouth Hampton Suffolk Newport Virginia Beach News Williamsburg (James City Norfolk County)
3	Northern Neck	Caroline Essex Gloucester King George King William King and Queen Lancaster	Matthews Middlesex Northumberland Richmond Spotsylvania Stafford Westmorland		Colonial Beach Fredericksburg West Point
4	Northern Virginia	Arlington Clarke Culpeper Fairfax Fauquier Frederick Loudoun	Madison Orange Page Prince William Rappahannock Shenandoah Warren		Alexandria Falls Church Manassas Manassas Park Winchester
5	Valley	Albemarle Amherst Augusta Bath Bedford Campbell Fluvanna	Greene Highland Louisa Nelson Rockbridge Rockingham		Buena Vista Charlottesville Harrisonburg Lexington Lynchburg Staunton Waynesboro
6	Western Virginia	Allegheny Botetourt Craig Floyd	Franklin Henry Montgomery	Patrick Pittsylvania Roanoke	
7	Southwest	Bland Buchanan Carroll Dickenson Giles	Grayson Lee Pulaski Russell Scott	Smyth Tazewell Washington Wise Wythe	
8	Southside	Amelia Appomattox Brunswick Buckingham	Charlotte Cumberland Greensville Lunenburg	Mecklenburg Nottoway Halifax Prince Edward	

# **APPENDIX C**

## **FORMS FOR PAPER SUBMISSION**

2015 Student Entry Form

Certification Statement Form

2015 Reader's Evaluation

2015 Judge's Evaluation

Continuation Project Form

VJAS Mentor and/or Research Facility Form

School & Individual Entry Forms - Instructions

**Category Code:** (MS=2 letters, HS=3 letters)

**VJAS School Number**

Multiple Author Paper Check Here

## 2015 STUDENT ENTRY FORM PAGE ONE

Each **student** (multiple authors included) must fill out this form completely and sign it. TYPE all information. This can be done on screen. Make sure all information prints. Staple pages ONE, TWO, and THREE to **each** copy of your paper. Signing this entry form indicates understanding and acceptance of the official VJAS rules as set forth in the latest edition of the VJAS Handbook. **Entries must be received in the VJAS office by February 25, 2015.** USE FIRST CLASS MAIL, EXPRESS MAIL, or HAND DELIVER. (Rubber band all copies together.)

1. **Student's Name** \_\_\_\_\_ **Grade** \_\_\_\_\_

(First) (Middle) (Last)

Home Address \_\_\_\_\_ City \_\_\_\_\_

Email \_\_\_\_\_, VA Zip \_\_\_\_\_

Telephone (\_\_\_\_) \_\_\_\_\_ Parent's Name \_\_\_\_\_

2. **Name of Student Sponsor** \_\_\_\_\_ E-mail \_\_\_\_\_

3. **Complete School Name** \_\_\_\_\_

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

City \_\_\_\_\_, VA Zip \_\_\_\_\_

School System \_\_\_\_\_ Tel # (\_\_\_\_) \_\_\_\_\_

4. **Title of Paper** \_\_\_\_\_

If paper is a **continued project** then state second, third, etc. year of study. \_\_\_\_\_

5. **Check Category** (only one) in which paper belongs **and place the code at upper left.**

<i>MS: Grades 7-8 ONLY</i>	<i>HS: Grades 9-12 ONLY</i>	<i>HS: Grades 9-12 ONLY</i>
<input type="checkbox"/> <b>AH</b> - Animal & Human Sciences	<input type="checkbox"/> <b>BOT</b> - Botany	<input type="checkbox"/> <b>MDH</b> - Medicine & Health
<input type="checkbox"/> <b>CS</b> - Chemical Science	<input type="checkbox"/> <b>CHM</b> - Chemistry	<input type="checkbox"/> <b>MCB</b> - Microbiology & Cell Biology
<input type="checkbox"/> <b>EE</b> - Ecology & Earth Sciences	<input type="checkbox"/> <b>EGR</b> - Engineering	<input type="checkbox"/> <b>PHY</b> - Physics
<input type="checkbox"/> <b>EM</b> - Engineering & Mathematics	<input type="checkbox"/> <b>ENV</b> - Environmental Science	<input type="checkbox"/> <b>PSY</b> - Psychology
<input type="checkbox"/> <b>HB</b> - Human Behavior	<input type="checkbox"/> <b>MSC</b> - Math, Statistics & Computer Science	<input type="checkbox"/> <b>ZOO</b> - Zoology
<input type="checkbox"/> <b>PS</b> - Physical Science		
<input type="checkbox"/> <b>PM</b> - Plant Science & Microbiology		

6.  **Check here** and complete ALL appropriate parts of the **Certification Statement Form** if vertebrate animals, human subjects, recombinant DNA, cells and/or tissues, pathogenic agents, toxic or controlled substances were used or if student had a mentor and/or worked in a research facility.

7. How many times previously have you presented at VJAS meetings? \_\_\_\_\_

8. If my paper is accepted, I agree to present my paper on in May 2015 at JMU.

Student's Signature\* \_\_\_\_\_ Date \_\_\_\_\_

9. This paper has been reviewed to determine that the appropriate procedures were followed and valid safety precautions were taken and is therefore, recommended for reading.

Student Sponsor's Signature\* \_\_\_\_\_ Date \_\_\_\_\_

**\*Failure to have both student and student sponsor [listed in 2 above] signatures will disqualify paper.**

**SEND TO:**

**Virginia Junior Academy of Science, 2500 W. Broad Street, Richmond, VA 23220**

# CERTIFICATION STATEMENT FORM

## VERTEBRATE ANIMAL CERTIFICATION

I certify that the use of live vertebrates in the experimentation and observations covered by this paper was in accordance with the rules for the use of live vertebrates contained in the latest edition of the VJAS Handbook

SIGNED: \_\_\_\_\_  
Student \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Student Sponsor \_\_\_\_\_ Date \_\_\_\_\_

## HUMAN SUBJECT CERTIFICATION

I certify that the use of human subjects in the experimentation and observations covered by this paper was in accordance with the State of Virginia Regulations of the Board of Education Regarding Research involving Students and the rules for the use of humans contained in the latest edition of the VJAS Handbook, **that informed consent/assent/permission forms and/or parental permission were obtained, and that a sample Participant Consent Form is included in the Appendix of this paper.**

SIGNED: \_\_\_\_\_  
Student \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Student Sponsor \_\_\_\_\_ Date \_\_\_\_\_

## RECOMBINANT DNA CERTIFICATION

I certify that the use of recombinant DNA in the experiment and observations covered by this paper was in accordance with the revised NIH Guidelines for Research Involving Recombinant DNA Molecules and the rules for recombinant DNA contained in the latest edition of the VJAS Handbook.

SIGNED: \_\_\_\_\_  
Student \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Student Sponsor \_\_\_\_\_ Date \_\_\_\_\_

## CELL AND TISSUE CERTIFICATION

I certify that the use of cell or tissue samples in the experimentation and observations covered by this paper was in accordance with the rules contained in the latest edition of the VJAS Handbook.

SIGNED: \_\_\_\_\_  
Student \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Student Sponsor \_\_\_\_\_ Date \_\_\_\_\_

## PATHOGENIC AGENTS TOXIC OR CONTROLLED SUBSTANCES CERTIFICATION

I certify that the use of pathogenic agents, toxic or controlled substances in the experimentation and observations covered in this paper was in accordance with the rules for pathogenic agents, toxic or controlled substances contained in the latest edition of the VJAS Handbook.

SIGNED: \_\_\_\_\_  
Student \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Student Sponsor \_\_\_\_\_ Date \_\_\_\_\_

## MENTOR and/or RESEARCH FACILITY CERTIFICATION

This is to certify that the student worked in a research facility or received significant help from a professional other than the student's teacher. For further information, see the VJAS Mentor and/or Research Facility Form. **Both the Student and the Student Sponsor at the student's school must sign below. In addition, the VJAS Mentor and/or Research Facility Form must be filled in and signed by the scientist supervising the student research and included in the student's paper.**

SIGNED: \_\_\_\_\_  
Student \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Student Sponsor \_\_\_\_\_ Date \_\_\_\_\_

2015 READER'S EVALUATION

Category Code

(MS=2 letters, HS=3 letters)

PAGE TWO

Title of Paper (Typed by student)

VJAS School Number

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STUDENT - do not write below this line

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READER - Please complete all parts of this part of the evaluation

CRITERIA FOR SCREENING VJAS PAPERS

Do Not Write on the Research Paper – Please put constructive comments below or on the reverse.

- \_\_\_\_\_ A. **Abstract (10 points maximum)** - Concise statements of the research objective, approach, key results, and conclusions.
- \_\_\_\_\_ B. **Introduction (20 points maximum)** - Understanding and explanation of background concepts, literature review and literature cited. Rationale/reasons for conducting experiment; purpose of experiment, testable hypothesis.
- \_\_\_\_\_ C. **Project Design (10 points maximum)** - Manipulated/independent variables, levels of independent variable, control group, repeated trials, responding/dependent variable, constants.  
*For Math. This includes the logical development of ideas, validity of proofs and conjectures.*
- \_\_\_\_\_ D. **Methods and Materials (10 points maximum)** - Clear explanation of procedure: all materials and equipment included, precise, and replicable; with appropriate safety.
- \_\_\_\_\_ E. **Results: Data Presentation and Analysis (15 points maximum)** - Data should be summarized and presented verbally as well as numerically (tables) or pictorially (graphs). Appropriate use methods of analysis of these data should be presented, such as measures of central tendency, measures of dispersion/variation and/or other statistical analysis.
- \_\_\_\_\_ F. **Discussion and Conclusions (15 point maximum)** - Includes major findings; explanation of findings; discusses support or lack of support for hypothesis; comparisons with other research referenced in literature cited; improvements/suggestions for other research.
- \_\_\_\_\_ G. **Creativity, Appropriateness, Scientific Validity (10 points maximum)** – Creativity in approach to problem selected, independent thinking, appropriateness as indicated by student's understanding of problem; scientific validity of student's work
- \_\_\_\_\_ H. **General Assessment of Paper (10 points maximum)** – Understanding of problem; quality of written paper: grammar (used third person past tense except for MSC) and spelling; effort.
- \_\_\_\_\_ **TOTAL SCORE (A+B+C+D+E+F+G+H+I = 100 possible points)** *Please double check calculations.*

## 2015 JUDGE'S EVALUATION

Category Code

(MS=2 letters, HS=3 letters)

PAGE THREE

Title of Paper (Typed by student)

VJAS School Number

**Judge:** Please complete all parts of the "Criteria for Written Papers" before student sessions; pencil is preferable. Bring these forms and the papers with you to the meeting. Specific criterion items and scores are included for your guidance and may not be applicable to all papers. Please use your own judgment in allocating points within major categories (A, B, etc.) if the suggested scoring is deemed inappropriate to a particular paper. Please write comments to the students on the paper or on the back of this form. All forms and papers will be returned to the student. Please double check all calculations.

### CRITERIA FOR JUDGING VJAS WRITTEN PAPERS (100 Points maximum)

- \_\_\_\_\_ **A. Abstract (10 points maximum)** - Concise statements of the research objective, approach, key results, and conclusions.
- \_\_\_\_\_ **B. Introduction (20 points maximum)** - Understanding and explanation of background concepts, literature review and literature cited. Rationale/reasons for conducting experiment; purpose of experiment, testable hypothesis.
- \_\_\_\_\_ **C. Project Design (10 points maximum)** - Manipulated/independent variables, levels of independent variable, control group, repeated trials, responding/dependent variable, constants.  
*For Math. This includes the logical development of ideas, validity of proofs and conjectures.*
- \_\_\_\_\_ **D. Methods and Materials (10 points maximum)** - Clear explanation of procedure: all materials and equipment included, precise, and replicable; with appropriate safety.
- \_\_\_\_\_ **E. Results: Data Presentation and Analysis (15 points maximum)** - Data should be summarized and presented verbally as well as numerically (tables) or pictorially (graphs). Appropriate use methods of analysis of these data should be presented, such as measures of central tendency, measures of dispersion/variation and/or other statistical analysis.
- \_\_\_\_\_ **F. Discussion and Conclusions (15 point maximum)** - Includes major findings; explanation of findings; discusses support or lack of support for hypothesis; comparisons with other research referenced in literature cited; improvements/suggestions for other research.
- \_\_\_\_\_ **G. Creativity, Appropriateness, Scientific Validity (10 points maximum)** – Creativity in approach to problem selected, independent thinking, appropriateness as indicated by student's understanding of problem; scientific validity of student's work
- \_\_\_\_\_ **H. General Assessment of Paper (10 points maximum)** – Understanding of problem; quality of written paper: grammar (used third person past tense except for MSC) and spelling; effort.

**PAPER TOTAL SCORE (100 possible points) A+B+C+D+E+F+G+H+I = \_\_\_\_\_**

### ORAL PRESENTATION (50 Points maximum)

- \_\_\_\_\_ **A.** The oral presentation is clear, practiced, and presented within the ten minute time allotted. The student is comfortable with the use of technology and principles of public speaking in the presentation of a scientific paper. (**Maximum 10 points**)
- \_\_\_\_\_ **B.** The oral presentation is comprehensive. The student states objectives, outlines methodology, reviews results, and summarizes conclusions. (**Maximum 10 points**)
- \_\_\_\_\_ **C.** The student presentation and responses to judges' questions show clear understanding of the research. (**Maximum 30 points**)

**ORAL TOTAL SCORE (50 possible points) A + B + C = \_\_\_\_\_**

**GRAND TOTAL (150 Possible points) Paper + Oral Presentation \_\_\_\_\_**

*Please double check all calculations.*

# Continuation Project Form

IF this project has been submitted to the VJAS in a previous year, all aspects of this form **MUST** be completed and included with the other entry forms. This form should be located behind the Judges Form.

Title of Project:

---

---

How many times have you entered a project under a similar research topic? \_\_\_\_\_

How does the current year's project document new and different research?

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List the titles and year of your past research papers:

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_

# VJAS Mentor and/or Research Facility Form

This form must be completed by the scientist supervising the student research conducted in a research institution (e.g., universities, medical centers, NIH, correctional facilities, etc.) or industrial setting.

This form **MUST** be attached to your paper submission and placed after the Judge Evaluation Form.

Paper Title \_\_\_\_\_

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**To be completed by the Scientist (NOT the Student or Student Sponsor) after experimentation has been completed. Please DO NOT identify student by name.**

The student conducted research at my institution: (check one)

- A.  Only to use the equipment                      B.  To perform experiment(s)

If B is checked, the following questions must be answered.

- 1) How did the student get the idea for her/his project? (e.g. Was the project assigned, picked from a list, an original student idea, etc.?)
  
  
  
  
  
  
  
  
  
  
- 2) What did the student do that showed creativity and ingenuity? (Did the student create or show creativity in experimental design, development of techniques or equipment, arrive at own conclusions, etc.)
  
  
  
  
  
  
  
  
  
  
- 3) Did the student work on the project as a part of a research group?     Yes     No  
If yes, how large was the group and what kind of research group was it (students, group of adult researchers, etc.)
  
  
  
  
  
  
  
  
  
  
- 4) What specific procedures did the student actually perform? How independently did the student work? Please list and describe. (Do not list procedures student only observed.)

Scientist's Printed Name \_\_\_\_\_

Signature \_\_\_\_\_ Title \_\_\_\_\_

Institution \_\_\_\_\_ Date Signed \_\_\_\_\_

Address \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

\_\_\_\_\_ e-Mail \_\_\_\_\_



# 2015 School & Individual Entry Forms

## Instructions

A **School Entry Form** or **Individual Entry Form** must be completed when submitting papers for the Research Symposium. These entry forms are Excel Spreadsheets and the appropriate Excel File must be downloaded from the VJAS website.

- **School Entry Form** is for listing papers submitted by students attending VJAS Member Schools.
- **Individual Entry Form** is for listing papers submitted by VJAS Individual Members (i.e., students attending non-VJAS Member Schools).

**Directions.** These forms are for the **Head Sponsors** (at VJAS Member Schools) or **Parents/Guardians** (for VJAS Individual Members or Non-Members) to complete.

1. Go to VJAS website ([www.vjas.org](http://www.vjas.org)) and download appropriate file and complete the Excel spreadsheet according to the instructions provided on the form.
2. Please name the completed file “name\_entry\_form” using the school name or last name (individual). (Examples: “WakefieldHS\_Entry\_Form” or “Smith\_Entry\_Form”)
3. Please make a hard (paper) copy and enclose it with your student paper(s), and
4. **Email a copy of the completed Excel file by **February 25, 2015** to the VAS/VJAS Office at [vas@smv.org](mailto:vas@smv.org).**

### **Importance: These forms are used to generate the VJAS Program.**

The information, as you submit it, is copied and pasted into our other forms that are ultimately used to generate the VJAS Program. Therefore, ALL submitted information should be accurate. In particular, please make sure of the following:

1. The full name of the student is given and is the same as the name listed on the Student Entry Form attached to the paper. Make sure that the spelling is correct and do not use nicknames.
2. The exact title of the paper is given and is the same as the title listed on the Student Entry Form attached to the paper. Make sure that the spelling is correct.

**APPENDIX D**

**SPECIAL FORMS**

**& Related Guidelines**

Guidelines for the Phil Robinson Research Grant

Phil Robinson Research Grant Application

Special Interest Award Application

VEE Application for the F. & S. Lewis and H. Mackenzie Scholarships

Scholarship Application: Bethel and Virginia Colleges & Universities

VJAS Application for Junior Officers

Election Procedure - VJAS Officers

# Guide Lines for the Phil Robinson Research Grant Application

**NOTE: In order for a student to be eligible to apply for this grant the student's School must already be affiliated with VJAS for the current school year (i.e., must have submitted the school's VJAS School Membership Form and membership fee to the VAS/VJAS Office prior to the November 1 deadline for submission of grant applications). It is the student's responsibility to check with his/her sponsor so that the sponsor will contact the VAS/VJAS Office for confirmation that the school has joined VJAS as a School Member.**

These suggestions are in addition to those instructions that appear on the grant application form. Also see "Conducting Research" #7 in the Handbook for further Guidelines for these Grants.

1. The supporting information for a grant should be limited to two pages (not counting the application form). It should include the title of the research, a brief statement regarding the purpose of the research, a brief statement regarding how the research is to be carried out, and a list of materials needed with prices and sources of these materials.
2. Where multiple grant requests are from one school, the pooling of materials should be considered. When five people are working with Wisconsin fast plants, each person does not need a pound of seed.
3. When considering the request, consider substituting less expensive equipment for the scientific form. If the research is to follow a published research project that used beakers, consider Mason jars instead of the much more expensive beakers. Consider various sizes of Ziploc bags, Gladware containers, etc.
4. Consider other than purchased sources for materials. Soil can come from many sources other than from a scientific supply house.
5. The following is a list of items that will not be funded:
  - a. film & developing
  - b. presentation materials
  - c. travel
  - d. items that should be present at the school such as Petri dishes, standard glassware, standard chemicals, computer supplies, and paper products
  - e. items that are excessively expensive which is anything over \$250.00
  - f. food items such as soft drinks, meals, etc.

# PHIL ROBINSON RESEARCH GRANT APPLICATION

**Deadline: Must be received by the VJAS Director by November 1.**

1. Name: \_\_\_\_\_ Grade: \_\_\_\_\_  
(First) (Middle) (Last)
2. Address: \_\_\_\_\_, VA \_\_\_\_\_  
(Street) (City) (Zip)
3. Student Sponsor: \_\_\_\_\_ Tel. No. \_\_\_\_\_  
email: \_\_\_\_\_
4. Project Advisor \_\_\_\_\_  
(If different from Student Sponsor)
5. School: \_\_\_\_\_
6. Title of Research: \_\_\_\_\_  
\_\_\_\_\_

7. On an attached sheet, enclose a project description\* which describes the following:

Purpose of research  
Procedure for testing hypothesis or a description of experimental design  
Itemized list of all **SUPPLIES** to be purchased with grant funds and the approximate cost of each item. Remember, **equipment cannot be purchased** with grant funds.

8. Total Amount Requested: \$ \_\_\_\_\_

9. **ENCLOSE STATEMENT FROM SPONSOR\*** SUPPORTING PROJECT.

(Sponsor: Please verify the feasibility of the project for this student in the setting in which it is to be accomplished.) Each grant application must have a support letter.

**\*Note:** Before mailing your application via **Priority Mail**, assure that your project description and the statement of your sponsor are enclosed.

**Any student who applies for research funds must join the VJAS and submit a paper. Any student who receives research funds and whose paper is accepted is committed to attend and present his/her paper at the annual meeting. Anyone who does not is in violation of the fund and monies received by that student must be returned to the Phil Robinson Endowment Fund.**

10. Student's Signature: \_\_\_\_\_

11. Student Sponsor's Signature: \_\_\_\_\_

---

**STUDENT: Do not write below this line**

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**For use of the Phil Robinson Research Committee**

\_\_\_\_\_ **Approved**      **Date:** \_\_\_\_\_

\_\_\_\_\_ **Disapproved**      **Date:** \_\_\_\_\_

**Amount:** \$ \_\_\_\_\_

**Send to:**  
**Susan Booth, Director**  
**2212 Executive Dr.**  
**Hampton, VA 23666**

## SPECIAL INTEREST AWARD APPLICATION

**Submit after notification of acceptance**

**A COPY OF YOUR RESEARCH PAPER (with all required certifications and forms)  
MUST ACCOMPANY THIS FORM**

1. Title of Paper \_\_\_\_\_
2. VJAS Category \_\_\_\_\_
3. Name \_\_\_\_\_ Grade \_\_\_\_\_
4. Home Address (*Street*) \_\_\_\_\_  
(*City*) \_\_\_\_\_ VA \_\_\_\_\_ Tel. No. \_\_\_\_\_  
(*Zip*) \_\_\_\_\_
5. School Name \_\_\_\_\_
6. School Address \_\_\_\_\_ (*City*) \_\_\_\_\_, VA \_\_\_\_\_  
(*Zip*) \_\_\_\_\_
7. Student's Signature \_\_\_\_\_
8. Student's e-mail \_\_\_\_\_
9. Parent/Guardian's Signature \_\_\_\_\_
10. Student Sponsor: Name \_\_\_\_\_ Signature \_\_\_\_\_
11. Student Sponsor's e-mail \_\_\_\_\_
12. Head Sponsor: Name \_\_\_\_\_ Signature \_\_\_\_\_
13. Head Sponsor's e-mail \_\_\_\_\_

**These signatures indicate verification of the accuracy of the information provided and endorse the application for the award selected.**

14. Please check **one** award for which this application is made
  - Cancer Research Award
  - Dr. & Mrs. Leake Chemistry Award
  - Infectious Disease Award
  - Gamma Sigma Delta Award
  - Speleological Society Award
  - VA Museum of Natural History Award
  - VA Sea Grant College Program Award
  - Roscoe Hughes Genetics Award
15. Send by **Priority Mail** all completed application packages to the VJAS Special Interest Awards and Scholarship Chair.

**Susan Booth, Director, 2212 Executive Dr., Hampton, VA 23666**

**Deadline for Receipt: All packages MUST BE RECEIVED by **APRIL 25.****

**VEE APPLICATION for the F. & S. LEWIS and H. MACKENZIE SCHOLARSHIPS**

**Submit after notification of acceptance**

**FIVE (5) COPIES OF YOUR RESEARCH PAPER (with all required certifications and forms)  
MUST ACCOMPANY THIS FORM**

1. Title of Paper \_\_\_\_\_
2. VJAS Category \_\_\_\_\_
3. Name \_\_\_\_\_ Grade \_\_\_\_\_
4. Home Address (*Street*) \_\_\_\_\_  
(*City*) \_\_\_\_\_ VA \_\_\_\_\_ Tel. No. \_\_\_\_\_  
(*Zip*) \_\_\_\_\_
5. School Name \_\_\_\_\_
6. School Address \_\_\_\_\_ (*City*) \_\_\_\_\_, VA \_\_\_\_\_  
(*Zip*) \_\_\_\_\_
7. Student's Signature \_\_\_\_\_
8. Student's e-mail \_\_\_\_\_
9. Parent/Guardian's Signature \_\_\_\_\_
10. Student Sponsor: Name \_\_\_\_\_ Signature \_\_\_\_\_
11. Student Sponsor's e-mail \_\_\_\_\_
12. Head Sponsor: Name \_\_\_\_\_ Signature \_\_\_\_\_
13. Head Sponsor's e-mail \_\_\_\_\_

**These signatures indicate verification of the accuracy of the information provided and endorse the application for the award selected.**

14. Please check the scholarship(s) for which this application is made:

- Frances and Sydney Lewis Scholarship**
- Henry W. MacKenzie Jr. Scholarship** (*Note: must deal with James River Basin and Chesapeake Bay.*)
- Both the Frances & Sydney Lewis and the Henry W. MacKenzie Scholarships**

15. Send by **Priority Mail** all completed application packages to the VJAS Special Interest Awards and Scholarship Chair.

**Susan Booth, Director, 2212 Executive Dr., Hampton, VA 23666**

**Deadline for Receipt: All packages MUST BE RECEIVED by **APRIL 30.****

**NOTE:** The Check List on the following may be used as a rubric to make sure everything is included.

## Checklist for Environmental Scholarship Requirements

**Applicant:**

---

**Paper Title:**

---

**Scholarship:**  Francis and Sydney Lewis       Mackenzie

For the checklist below, please indicate yes or no as to whether the required pieces are present. In the comment section, please respond to additional questions or include significant findings.

Requirements	Yes	No	Comments
Field of Study			Plan for Environmental Studies in college? Religious School?
Career Plans			
Includes Awards & Honors			
School Activities			
Community Activities			
Transcript			
Letters of Support (2)			
Research Paper Copies (4)			For Lewis Scholarship, is there a focus on Environmental Science?  For Mackenzie Scholarship, is there a focus on the James River Basin and Chesapeake Bay?

**SCHOLARSHIP APPLICATION: Bethel and Virginia Colleges & Universities**  
**Submit after notification of acceptance**  
**A COPY OF YOUR RESEARCH PAPER (with all required certifications and forms)**  
**MUST ACCOMPANY THIS FORM**

1. Title of Paper \_\_\_\_\_
2. VJAS Category \_\_\_\_\_
3. Name \_\_\_\_\_ Grade \_\_\_\_\_
4. Home Address (*Street*) \_\_\_\_\_  
(*City*) \_\_\_\_\_ VA \_\_\_\_\_ Tel. No. \_\_\_\_\_  
(*Zip*) \_\_\_\_\_
5. School Name \_\_\_\_\_
6. School Address \_\_\_\_\_ (*City*) \_\_\_\_\_, VA \_\_\_\_\_  
(*Zip*) \_\_\_\_\_
7. Student's Signature \_\_\_\_\_
8. Student's e-mail \_\_\_\_\_
9. Parent/Guardian's Signature \_\_\_\_\_
10. Student Sponsor: Name \_\_\_\_\_ Signature \_\_\_\_\_
11. Student Sponsor's e-mail \_\_\_\_\_
12. Head Sponsor: Name \_\_\_\_\_ Signature \_\_\_\_\_
13. Head Sponsor's e-mail \_\_\_\_\_

**These signatures indicate verification of the accuracy of the information provided and endorse the application for the award selected.**

14. Please circle one scholarship for which this application is made

**Bethel Scholarship**

**College Scholarship:** \_\_\_\_\_  
(One college per application. See Handbook for list. College selects awardee.)

**NOTE:** If you are applying for more than one you must submit separate (and complete) applications.

15. Send by **Priority Mail** all completed application packages to the VJAS Special Interest Awards and Scholarship Chair.

**Susan Booth, Director**  
**2212 Executive Dr.**  
**Hampton, VA 23666**

**Deadline for Receipt: All packages MUST BE RECEIVED by **APRIL 25.****



**Virginia Junior Academy of Science Application for Junior Officers**  
(Please Type or Print)

Name \_\_\_\_\_ Phone # ( \_\_\_ ) \_\_\_\_\_ Grade \_\_\_\_\_

Address \_\_\_\_\_ VA Zip \_\_\_\_\_  
(Street) (City)

e-mail \_\_\_\_\_

School \_\_\_\_\_

Officer Sponsor \_\_\_\_\_

e-mail \_\_\_\_\_

**Desired Office:** President \_\_\_\_\_ Vice President \_\_\_\_\_ Secretary \_\_\_\_\_

Editor-in-Chief \_\_\_\_\_ Communications Liaison \_\_\_\_\_

The following questions are to be answered in the space provided. **Answers are not to exceed the front of this sheet of paper.** Please attach the two minute speech you plan to make in front of the Academy in running for this office.

1. What other leadership experience have you had? Include the length of any office(s) and any awards won in association with that office.

2. If elected to office, what changes or improvements would you suggest for the VJAS?

3. If you had to tell the voters one reason why you are the best candidate for office, what would that one reason be?

\_\_\_\_\_

Candidates Signature	Date	Parent's Signature	Date
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- In signing, I agree to support this student in their role as an officer if elected and serve as a member of the VJAS committee for that year.

\_\_\_\_\_

Officer Sponsor's Signature	Date
-----------------------------	------

- I hereby recommend the above student as a candidate for office in VJAS and support both the student and sponsor in their roles.

\_\_\_\_\_

Principal's Signature	Date
-----------------------	------

**Completed applications must be received by April 25.**

Send to: **Susan Booth, Director, 2212 Executive Dr., Hampton, VA 23666**

**ELECTION PROCEDURE**  
**Virginia Junior Academy of Science Officers**

1. All candidates for office in the VJAS must complete the “Application for Junior Officers” and compose and include a copy of the intended candidacy speech. Please TYPE or PRINT in black ink, and send to the VJAS Director so that it is received by **APRIL 25**; please do not request a signature. (See application for name and address.)
2. Be sure the Application has the following signatures: candidate acknowledgment, parent support, sponsor approval, and principal support. Any applications without the required signatures will not be eligible for acceptance. (One candidate per school please.)
3. All candidates are required to attend the VJAS Committee Meeting before the General Session; see Program for exact time and location. Candidates will deliver their speeches and have the opportunity to meet with the presiding VJAS officers to learn more about each position. Failure to be present at the Committee Meeting will result in the removal of the candidate from the ballot. (Reminder: Candidates must be dressed in business casual attire at ALL times and if not then can be removed from the election process at any time.)
4. Candidates will attend the General Sessions with their school. At the appropriate time, candidates for each of the offices will be called on stage in turn. **THERE WILL BE NO FLOOR NOMINATIONS AT THE GENERAL SESSION.**
5. To introduce each of the candidates, the presiding officers will present the candidates. **THERE WILL BE NO NOMINATING SPEECHES.**
6. Each Candidate will have no more than two (2) minutes to address the General Session. Candidates will be cut off if the speech runs over.
7. Each dues paying school in attendance will have one vote for each office. Ballots will be distributed to sponsors before the Jeffers Lecture, and collected following the conclusion of that general session. Any ballots received after this time will not be tallied.
8. Results of the election will be announced at the Awards General Session.
9. Expectations: VJAS officers are required to attend the summer meeting, winter meeting and Research Symposium, including the Annual Meeting.
10. The Office of President candidate must be a current officer or one that has participated in the meetings prior to the year of taking office.