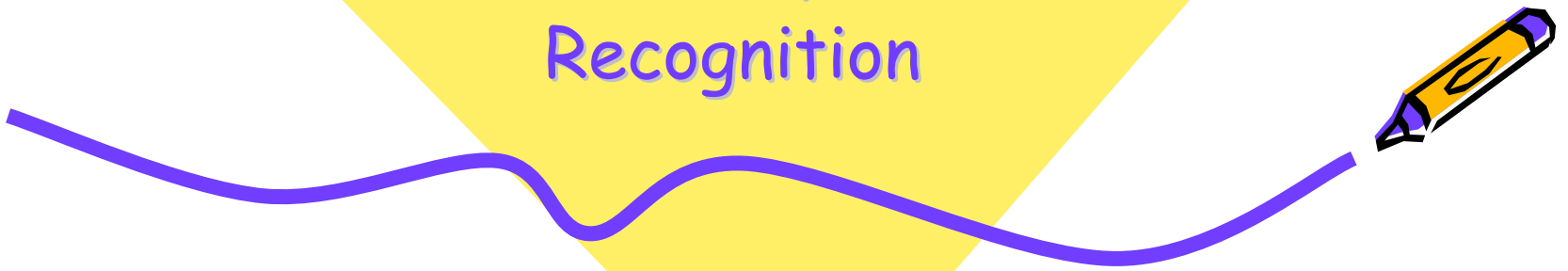




# Research Papers

Another Venue for Student  
Recognition



# Research Paper Contests

Middle School  
Grades 6-8

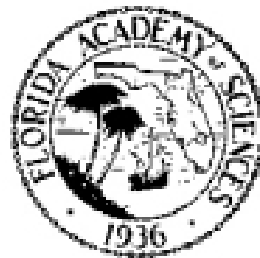
- RSEF Paper Contest



- Discover Youth Science Challenge



- Florida Junior Academy of Science



*Florida Academy of*  
**Sciences**



# Research Paper Contests

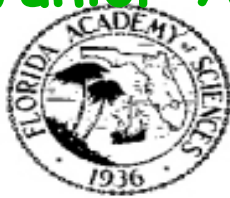
Senior High School Grades 9-12



- RSEF Paper Contest



- Florida Junior Academy of Science (FJAS)



*Florida Academy of*  
**Sciences**

- Junior Science Engineering & Humanities Symposium (JSEHS)



- INTEL, for Seniors only



# Research Paper Requirements

- Must be based on **EXPERIMENTAL RESEARCH**
- Entry forms must be completed
- Papers must not exceed 20 pages in length
- Require an abstract summarizing the work
- Presented orally with slides, transparencies, or computer presentations



# Components of an Experimental Paper



- **Title** - a clear concise, appropriate description of the research. Avoid titles that do not describe the work, or are verbose, or complex.

- **Example of a title:**

The Effects of *Arachis hypogaea* Oil on *Diplydium canium* (The Effects of Palm Oil on Dog Tape Worm)



# Experimental Paper Components Continued



- **Abstract** - a concise summary of the study
  - RSEF and JSEHS (250 words or less in scientific language)
  - FJAS (75 words or less in lay language)
- **Introduction** - describes in 1 to 2 pages the specific problem, background information pertinent to the research, purpose and hypothesis of the experiment.



# Example of Literature Citations in an Introduction



According to Fako (1996) and Dumbo et al. (1995), dogs that are kept under palm trees do not have tape worms. It has also been shown that fleas, the carriers of the tape worm larvae, do not carry any worm larvae when grown under laboratory conditions when palm oil is present in the diet (Makeup et al., 1992).

The hypothesis should also be stated in a way it can be tested.



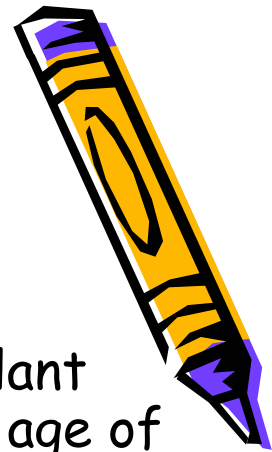
# Experimental Paper Components Continued

- **Method** - should identify the materials used and the procedures followed during the experiment. These should be written so anyone reading them could repeat the experiment.
- **Results** - includes observations and statistical analysis of the data. A statement of the numbers of replicates used and the number of organisms employed when conducting the experiments should be included. Tables are usually placed in this section while figures, including graphs, are often placed as appendices. Use descriptive and inferential statistics .



# A Research Analysis Guide

taken from Dr. Ted Boydston, M-DCPS, 1995



- Write a **topic sentence** stating the manipulated and responding variables, and a reference to a table.
- Write sentences comparing the measures of **central tendency (mode)** of the groups.
- Write sentences describing the **variation (frequency distribution)** within the groups.
- The data table on tomato plant health shows the effect of age of compost on the health of tomato plants.
- The plants grown in compost aged for six months, were healthy. The plants grown in compost aged for two or four months were unhealthy.
- The greatest variation in plant health was in the plants grown in compost aged for four months. Plants grown in two month old compost were 20% healthy while those grown in six month old compost were 80% healthy.



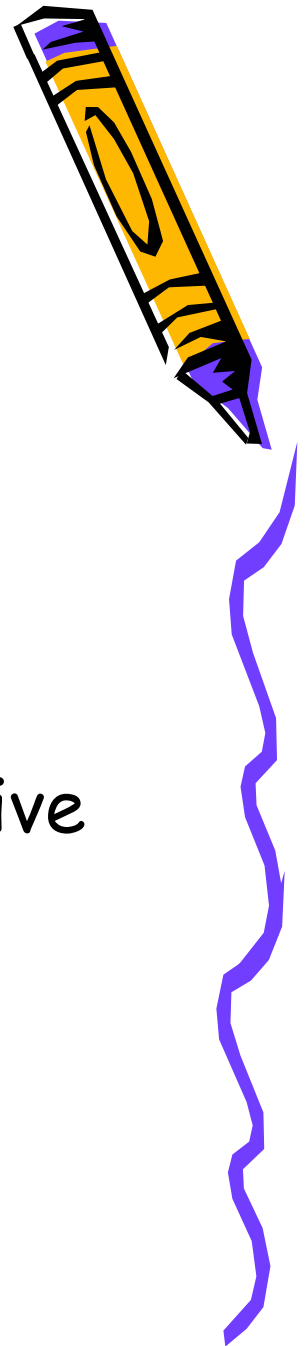
# Experimental Paper Components Continued



- **Discussion** - includes the evaluation of the results and the interpretation of the implications. Begin the discussion with a statement of the support or non-support of the original hypothesis. Also, remark on the shortcomings of the research, but do not dwell on these. Focus on how the results furthered understanding in the area.
- **References** - include all references used in preparing the research, following the APA format.



# Research Project to Research Paper



- Write the abstract to fit the contest specifications
- Complete the entry forms
- Convert the results to narrative form
- Analyze the results and write in narrative form
- Write the introduction
- Prepare slides, transparencies, or etc.



# Presenting an Experimental Research Paper



- Presented orally, using slides, transparencies or computer presentations
- Grades 6-8 have 10 minutes for presentation and grades 9-12 have 12 minutes for presentation, both have 3 minutes of judges' questions
- Use pictures, graphs, or tables as well as text (do as I say, not as I do - too much text here!)
- Try to use only the slides as a cues for the presentation - keep eye contact with the judges

