Pennsylvania Junior Science and Humanities Symposium

SUNDAY, MARCH 20–TUESDAY, MARCH 22, 2016 | Huntingdon, PENNSYLVANIA

How to Write an Abstract

A properly written abstract consists of the Title of the study and the body of the Abstract:

TITLE
Make your title concise, but also descriptive.

THE BODY OF THE ABSTRACT
The abstract is a very brief overview of your **ENTIRE** study. An abstract should contain no more than 175 words. It tells the reader **WHAT** you did, **WHY** you did it, **HOW** you did it, **WHAT** you found, and **WHAT** it means. The abstract is the chief way that scientists decide which research reports to read.

The Abstract Worksheet should help you prepare the first draft of your abstract. The sequence of sentences in the worksheet is ordered in a logical fashion, beginning with an introduction and proceeding to your test, results, discussion, and conclusions. Think of the most important items that crystallize each part of your project. Leave out **unimportant details.** As a first draft (using the worksheet), write one or two sentences that summarize each section. For your final draft, make sure the abstract "flows" logically. Give it to friends to read. Ask them to tell you what they think you actually did and what you found. **Revise** as necessary. An example of how to use the worksheet and a completed abstract sample are found below. Your abstract **must** follow the same format as the example given below.

ABSTRACT WORKSHEET FORM
Please use one concise sentence to summarize the most important aspects for each section listed below. Two sentences for Results are acceptable.
PROJECT TITLE
Keep it concise, but descriptive.
INTRODUCTION
What is this project about? Why is this project interesting or important?

HYPOTHESIS/PREDICTION
What did you think you would find? Why?
TEST
Briefly explain how you tested your prediction.
RESULTS
What did you find when you performed your test?
DISCUSSION
Are your results consistent with your initial hypothesis and prediction? Why or why not?

CONCLUSION
What do these results mean? Why should anyone become excited or interested in your findings?

ABSTRACT WORKSHEET EXAMPLE

Below you will find an example of a completed abstract worksheet.

PROJECT TITLE

A Test of the Competitive Exclusion Theory in Two Related Species of Butterflies

INTRODUCTION

I examined the food habits of larval butterflies of two related species in a zone of overlap near Oil City,Pennsylvania.

HYPOTHESIS/PREDICTION

The theory of competitive exclusion predicts that food habits of closely related species should not overlap significantly where the species occur together.

TEST

I used transects in five different habitats to determine food and habitat preferences in wild populations. Captive caterpillars were offered various foods in the laboratory; weight changes of foods and caterpillars were examined daily.

RESULTS

Food habits in overlap habitats were significantly different between the two species (ANOVA p=0.001). Food
habitats in nonoverlap habitats were not significantly different (ANOVA p=0.52). There were no differences in
food preferences (ANOVA p=0.88) on different foods in the laboratory populations.

DISCUSSION

These species are able to coexist because they are not competing for the same limited food resources in the same area.

CONCLUSION

These results support the theory of competitive exclusion because the two species did not use the same food resources in the same habitats.

ABSTRACT SAMPLE

Name: Sarah Dioski
Home Address: 135 Main Street
City, State, ZIP: Oil City PA 16215
School: Oil City High School
Sponsor/Teacher: Mrs. Georgiana Spallanzi

Title: A Test of the Competitive Exclusion Theory in Two Related Species of Butterflies
I examined the food habitats of larval butterflies of two related species *Papilio slendens* and *Papilio blanchii* in a zone of overlap near Oil City, Pennsylvania. The theory of competitive exclusion predicts that food habits of closely related species should not overlap significantly where the species occur together. I used transects in five different habitats to determine food and habitat preferences in wild populations. Captive caterpillars were offered various foods in the laboratory; weight changes of foods and caterpillars were examined daily. Food habitats in overlap habitats were significantly different between the two species (ANOVA p=0.001). Food habits in nonoverlap habitats were not significantly different (ANOVA p=0.52). There were no differences in food preferences (ANOVA p=0.88) on different foods in the laboratory populations. These species are able to coexist because

they are not competing for the same limited food resources in the same area. These results support the theory of competitive exclusion because the two species did not use the same food resources in the same habitats.