



Motto:
"Not for self but for
others"

Aspley State High School Science Department

Subject: Year 12 Physics
Context: Nuclear Technology

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Category: Extended Response Task
Instrument No.: 7

Draft Due: Wednesday 3rd June 2009.

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Teacher: Mr Sparks

Name: _____

Overall Result:

KCU	IP	EC

The application of nuclear medical technology is an important adjunct to diagnostic medicine and provides an effective means for the monitoring and treatment of disease.

The Task:

Your task is to write a research report of length 1500 words in response to the above statement. The report is to be accompanied by an annotated bibliography of length 1000 words. You should use the information gathered during your excursion to the Royal Brisbane and Women's Hospital as stimulus for your research report.

The minimum length acceptable for submission of this assignment will be 800 words for the report and 500 words for the annotated bibliography.

Annotated Bibliography

An annotated bibliography is a list of cited sources about a particular topic, each followed by a brief paragraph that discusses aspects of the source. An annotated bibliography is useful for documenting your research in a specific area, exploring varying viewpoints, and summarizing main points from different sources.

There are two parts to every entry in an annotated bibliography: the citation and the annotation.

The Citation:

The citation includes the bibliographic information of the source. Refer to your student handbook and/or student diary for details. Citations are organized alphabetically.

The Annotation:

The annotation is a brief paragraph following the citation.

Purpose of the Annotation:

The annotation of a source can serve several different purposes. In this case it should:

- describe the content of the source
- describe the usefulness of the source
- describe the intended audience
- evaluate the credibility of the source

Your annotation should cover only main points and themes.

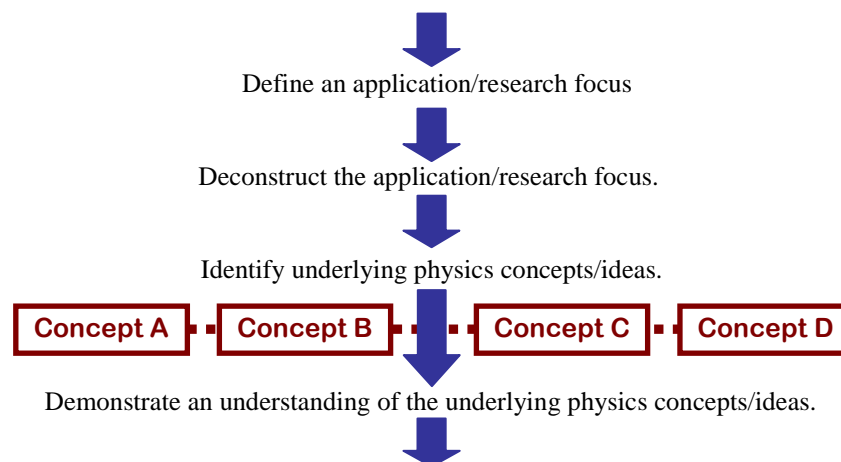
Research Essay Structure – General Guide.

Your task is to write a research paper in which you select and analyse a real application to illustrate the physics concepts and principles involved.

The following schematics give a suggested approach to the completion of the task.

Figure 1 below is a structured approach as to how this might be achieved.

Conduct a preliminary literature/internet search based upon the given statement.



Reconstruct the application/research focus showing how, specifically, the identified physics concepts/ideas are linked to your application/research focus and to each other. You need to be a little discriminating in deciding how, and to what extent, the identified concept ties into your selected application/research focus.

Figure 1

Introductory paragraph

The introductory paragraph should also include the thesis or statement that is a mini-outline for the essay. This is where the writer establishes the intention of the essay and informs the reader of what the paper is about. The last sentence of this paragraph should also include a transitional sentence that moves the reader to the first paragraph of the body of the essay.

Body paragraphs

The first sentence should contain a link to the transitional sentence from the previous paragraph. The subject for this paragraph should be in the first or second sentence and should relate to the thesis statement in the introductory paragraph. The last sentence in this paragraph should include a transitional statement that ties into the next paragraph of the body. Remember, only one idea/concept per paragraph. If you change ideas, start a new paragraph.

Concluding paragraph/s

These paragraphs are the summary paragraphs. It is important to restate the thesis and the supporting ideas in an original and powerful way as this is the last chance the writer has to convince the reader of the validity of the information presented.

These paragraphs should include the following:

1. a restatement of the thesis statement, using some of the original language or language that "echoes" the original language. (The restatement, however, must not be a duplicate thesis statement.)
2. a summary of the main points from the body of the essay and how they link to the thesis.
3. a final statement that gives the reader signals that the discussion/presentation has come to an end. (This final statement may be a "call to action" in a persuasive essay.)

Referring back to Figure 1, if the nature of the task is a research essay then it is important to show how the identified concepts/ideas link back to the thesis statement.

ERT Criteria Sheet – Research Report

	A	B	C	D	E	Summary Grades		
						KCU	IP	EC
Establishing the application/research focus.								
IP1	Evidence of a systematic preliminary research to identify an appropriate application/research focus. A structured and considered thesis that provides a focus for the task has been provided.	Evidence of systematic preliminary research to identify an appropriate application/research focus. An structured thesis that provides a focus for the task has been provided.	Evidence of preliminary research to identifies an application/research focus. A thesis related to the task has been provided.	Evidence of preliminary research to identify a research focus for the task.	Evidence of preliminary research to identify a research focus for the task.			
Deconstruction of the application/research focus.								
IP3	Deconstructs the application/research focus to identify and establish reasoned linkage with the underlying physics concepts and ideas.	Deconstructs the application/research focus to identify links with specific underlying physics concepts and ideas.	Identifies links between the application/research focus and related physics concepts and ideas.	Describes some general physics concepts and/or ideas related to the application/research focus.	Makes broad statements about physics concepts and ideas related to the application/research focus.			
Demonstration of an understanding of the associated physics concepts/ideas.								
KCU 1	Utilises collected information to construct and present in depth knowledge and understanding of qualitative and quantitative concepts across a range of areas associated with the selected application/research focus.	Utilises collected information to present an in depth knowledge and understanding of qualitative and quantitative concepts associated with the selected application/research focus.	References the collected data to construct and presents qualitative knowledge and understandings of concepts related to the selected application/research focus.	References the collected data to present knowledge of concepts and ideas related to the selected research focus.	Identifies knowledge of physics concepts and ideas related to the selected application/research focus.			
KCU 2	Adapts and translates understandings of concepts, theories and principles in relatively complex and challenging situations to the selected application/research focus.	Adapts understandings of concepts, theories and principles in relatively challenging situations to the selected application/research focus.	Applies understandings of concepts, theories and principles to the selected application/research focus.	Links understandings of concepts, theories or principles to the selected application/research focus.	Identifies concepts, theories or principles related to the selected application/research focus.			
KCU 3	Provides a comprehensive explanation of how elements of the underlying physics concepts and ideas apply and are linked in the selected application/research focus.	Provides an explanation of how elements of the underlying physics concepts and ideas apply in the selected application/research focus. Linkage between related elements as they apply to the application/research focus is inconsistent.	Provides descriptions of how elements of the underlying physics concepts and ideas relate to the selected application/research focus.	Identifies elements of the physics concepts that relate to the selected application/research focus.	Identifies physics ideas associated with the selected application/research focus.			

Conclusion						
EC1	Generate, critically evaluate and justify conclusions and decisions that provide clear linkage between the application/research focus and the stated thesis.	Generate and evaluate conclusions and decisions that provide linkage between the application/research focus and the stated thesis.	Generate conclusions that reference the collected information and the application/research focus.	Generate conclusions that reference the collected information or application/research focus.	Generate conclusions that reference the collected information.	
EC2	Uses the annotated bibliography to reflect upon the validity, accuracy and bias associated with information collected. Suggests refinements, areas for further research to further support the conclusion.	Uses the annotated bibliography to reflect upon the validity, accuracy and bias associated with information collected.	Uses the annotated bibliography to reflect upon the accuracy and bias that might be inherent in the information collected.	Uses the annotated bibliography to comment on the validity of information collected.	Makes statements about the collected information.	
Communication						
EC3	Uses clear and concise vocabulary and scientific terminology to clarify ideas and communicate information. Presentation consistently adheres to the requirements of the report as outlined in the task sheet.	Uses clear and concise vocabulary and scientific terminology to communicate ideas and information. Presentation generally adheres to the requirements of the report as outlined in the task sheet.	Uses clear and concise vocabulary and scientific terminology to communicate information. Presentation demonstrates significant deviations from the requirements of the report as outlined in the task sheet.	Communicates information using scientific terminology. Presentation demonstrates major deviations from the requirements of the report as outlined in the task sheet.	Communicates information. Presentation does not address the requirements of the report as outlined in the task sheet.	