



Motto:  
"Not for self but for  
others"

## Aspley State High School Multistrand

**TASK : A11 - Case Study**

**Topic: Keeping Healthy**  
Keeping people Alive

**Term: 3 2009**

**Hand Out: Week 3**  
**Draft Due: Week of 07/08/09**  
**Date Due: Week of 19/08/09**

**Research Time: 4 weeks**

**Name:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_

**Class:** \_\_\_\_\_

**Group Members:**

**Knowledge /10 Process /5**  
**Complex Process /5**

In today's society there are many antibacterial soaps and cleaning products on the market that claim to "kill germs and disease causing bacteria". Many of these products are expensive and may have detrimental effects to the user, and on the environment. Some people even recommend avoiding these harsh products and using home made products.

Your investigation requires that you:

1. Formulate and justify a suitable research question (This leads to a hypothesis. In the investigation you will find evidence to support or not support the hypothesis)
2. Plan and design an investigation to gather and record data (must include photos). This includes organizing to borrow or use school equipment where required, and planning your investigation to safety and ethical standards are met.
3. Draw conclusions from your data with regard to the posed research question.

You may perform the experiment in a group, but the research and experimental write up must be individual work

**The purpose of an Case Study is to communicate the results of your experiment. Your report will have the following format:**

<b>Title page</b>	The Title page should include title, author, teacher, date of submission. The title should be concise and informative .eg. The Effect of ..... on Bacteria
<b>Abstract</b>	The abstract is a precise summary of the whole report.
<b>Introduction</b>	The introduction needs to let the reader know why the report is important and introduce the what bacteria and antibacterial agents are , and the area in which your investigation fits. This section should include the “scientific question”. Why did you initially set up this experiment. It also includes any research in the literature to enhance the reader’s understanding of bacteria and how antibacterial agents work. It should also provide a brief summary of the contents of the report so that the reader can judge whether it is worth their while reading the whole report.It provides a clear overview of the aim of the investigation, the trends identified in the results and a brief evaluation of the investigation.
<b>Aim</b>	A statement of what you are investigating
<b>Hypothesis</b>	A statement of what you think will happen, based on observations or scientific theory. Remember never say “I think .....
<b>Materials</b>	All equipment should be listed in dot point format.
<b>Method</b>	The method is a detailed description of the steps used to conduct the investigation. The method should be very precise and describe each test so that it can be demonstrated that the experimental variables were controlled.
<b>Safety</b>	List safety requirements that are important in this prac.
<b>Variables</b>	Independent variable: The thing you <b>change</b> on purpose Dependent variable: The thing you <b>measure</b> Experimental variable: The things you keep the <b>same</b> to make a fair test. Control: The control shows what would happen if things were not changed (kept <b>constant</b> ). Not all experiments have a control.
<b>Results</b>	The results are a factual account of what you found. It is usually presented as a <b>data table</b> . The results and <b>graphs</b> are usually averaged results, with the raw data presented in the appendices. Presenting data as averages allows you to draw attention to any trends in the data. This section is usually written in present tense. Remember to number and title each data table and graph: Eg Data Table One : The diameter of the zone of no growth.
<b>Discussion</b>	The discussion should include an interpretation and explanation of the results, reference to the hypothesis and literature and any new investigation questions or areas for future research. Using science concepts, explain patterns, trends or relationships you have identified in your data. What is your conclusion? Is your hypothesis supported or not supported? What were the main sources of experimental error? (eg sample size and selection, measurement error, poor control of variables) How confident are you of your conclusions? How much uncertainty or error is associated with your data? How could the design of the experiment be improved to reduce error? Can you make a general statement or generalisation about your experiment? If no generalisation can be made or the experiment gave strange results then the statement:” No valid conclusion can be made using the results obtained” can be used.
<b>Conclusion</b>	A short statement. Did the results support or not support the hypothesis?
<b>Bibliography</b>	Refer to ASHS ISC homepage for bibliography
<b>Appendices</b>	Appendix One: The raw data collected through out the experiment Appendix Two: Photographs of experiment design

<b>Due Date</b>	<b>Task</b>	<b>Signature</b>
Week 3	Hand out assignment Practice Experiment and set up	
Week 4	School Task - Design and perform experiment	
Week 5 Draft	Part 1- Introduction Part 2- Experimental write up and data tables and graphs	
Week 7	Part 3- Discussion Due date :Report write up	

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**Student Ownership Statement.**  
**Yr 12 Multistrand Science**  
**A11 Keeping Healthy Case study.**

**I declare that:**

This assignment is my own work and I have not copied other student's work or directly from textbooks or other sources. I have not gained unfair assistance from other students, parents or guardians.

STUDENT SIGNATURE \_\_\_\_\_ DATE SUBMITTED: \_\_\_\_\_

TEACHER SIGNATURE \_\_\_\_\_