A checklist for effective reports

Before you submit your work, check that it includes these features of good reports:

	Tick box when checked
Does it answer the purpose stated (or implied) in the brief?	
Does it answer the needs of the projected reader?	
Has the material been placed in the appropriate sections?	
Has all the material been checked for accuracy?	
Are graphs and tables carefully labelled?	
Is data in graphs or tables also explained in words and analysed?	
Does the discussion/conclusion show how the results relate to objectives set out in the introduction?	
Have you discussed how your results relate to existing research mentioned in your literature survey?	
Has all irrelevant material been removed?	
Is it written throughout in appropriate style (i.e. no colloquialisms or contractions, using an objective tone, specific rather than vague)?	
Is it jargon-free and clearly written?	
Has every idea taken from or inspired by someone else's work been acknowledged with a reference?	
Have all illustrations and figures taken from someone else's work been cited correctly?	
Has it been carefully proof-read to eliminate careless mistakes?	

Effective Study Guides

Features of good reports

Report writing 1

This guide is the first of three looking at report writing. It includes:

- What a report is
- What makes a good report
- How reports are read

What is a report?

A report is a piece of informative writing that describes a set of actions and analyses any results in response to a specific brief. A quick definition might be: "This is what I did and this is what it means." You may be given an assignment which is not called a report but shares many of the same features; if so, aspects of this guide will be helpful.

Here are some key differences between reports and essays.

Essays	Reports
Argumentative and idea-based	Informative and fact-based
Semi-structured	Formally structured
Not written with a specific reader in mind (except the marker)	Usually written with a specific purpose and reader in mind
Written in single narrative style throughout	Written in style appropriate to each section
Usually do not include sub-headings	Always include section headings
Usually do not include bullet points	Often use bullet points
Usually no tables or graphs	Often includes tables or graphs
Offer conclusions about question	Offer recommendations for action

What makes a good/bad report?

Here are some of the most common complaints about reports:

- ✕ Badly structured
- ✕ Inappropriate writing style
- ✕ Incorrect or inadequate referencing
- ✕ Doesn't answer the brief
- ✕ Too much/too little/irrelevant material
- ✕ Expression not clear
- ✕ Doesn't relate results to purpose
- ✕ Unnecessary use of jargon

How can you make sure your report does what it's meant to do, and does it well?

Top tip…

The most important thing to do is **read the brief** (or the title of your assignment, or your research question) **carefully**. Then read it again even more carefully! If you're still not completely clear about what to do, speak to your tutor or a Study Adviser – don't guess.

- Make sure you know which sections your report should have and what should go in each. Reports for different disciplines and briefs will require different sections: for instance, a business report may need a separate Recommendations section but no Methods section. Check your brief carefully to make sure you have the correct sections. See **Report writing 2: Structuring your report** to learn more about what goes where.
- Remember that reports are meant to be informative: to tell the reader what was done, what was discovered as a consequence and how this relates to the reasons the report was undertaken. Include only relevant material in your background and discussion.
- A report is an act of communication between you and your reader. So pay special attention to who your projected reader is, and what they want from the report. Sometimes you will be asked to write for an imaginary

reader (e.g. a business client). In this case it's vital to think about why they want the report to be produced (e.g. to decide on the viability of a project) and to make sure you respond to that. If it's your tutor, they will want to know that you can communicate the processes and results of your research clearly and accurately, and can discuss your findings in the context of the overall purpose.

- Write simply and appropriately. See **Report writing 3. Writing your report** for more on this**.**
- Your method and findings should be described accurately and in non-ambiguous terms. A perfectly described method section would make it possible for someone else to replicate your research process and achieve the same results.
- Spend time on your discussion section. This is the bit that pulls the whole piece together by showing how your findings relate to the purpose of the report, and to any previous research.
- Every idea and piece of information you use that comes from someone else's work **must** be acknowledged with a reference. Check your brief, or department handbook for the form of referencing required (usually a short reference in the body of the text, and a full reference in the Reference List at the end).
- The word count will tell you what the scope of the report is. A 5000 word report will be expected to include a lot more background and discussion than a 1000 word report, which will be looking for more conciseness in the way you convey your information.

How are reports read?

Research on how managers read reports discovered that they were most likely to read (in order): the abstract or summary; then the introduction; then the conclusions; then the findings; then the appendices.

This is not to suggest that you should spend less time on writing up your findings. But it does show that the sections you may think of as less important (like the abstract or introduction) are actually often the places a reader gets their first impressions. So it's worth getting them right.

Checklist for good reports

- ✓ Does it answer the purpose stated (or implied) in the brief?
- ✓ Does it answer the needs of the projected reader?
- ✓ Has the material been placed in the appropriate sections?
- ✓ Has all the material been checked for accuracy?
- ✓ Are graphs and tables carefully labelled?
- ✓ Is data in graphs or tables also explained in words and analysed?
- ✓ Does the discussion/conclusion show how the results relate to objectives set out in the introduction?
- ✓ Has all irrelevant material been removed?
- ✓ Is it written throughout in appropriate style (i.e. no colloquialisms or contractions, using an objective tone, specific rather than vague)?
- ✓ Is it jargon-free and clearly written?
- ✓ Has every idea taken from or inspired by someone else's work been acknowledged with a reference?
- ✓ Have all illustrations and figures taken from someone else's work been cited correctly?
- ✓ Has it been carefully proof-read to eliminate careless mistakes?

For more advice, see….

Report writing 2. Structuring your report.

Report writing 3. Writing your report.

www.learnhigher.ac.uk/learningareas/reportwriting/introduction.htm

For more on this and other aspects of academic study, see our website at **www.rdg.ac.uk/studyadvice**

Effective Study Guides

Structuring your report

Report writing 2

This guide is the second of three on report writing at university. It includes advice on:

- The most commonly-found sections of a report
- The function of each section, and how to decide where your information will go

Structuring your report

Unlike essays, reports have formal structures. When writing an essay, you need to place your information **to make a strong argument**. When writing a report, you need to place your information **in the appropriate section**. Consider the role each item will play in communicating information or ideas to the reader, and place it in the section where it will best perform that role. For instance:

- Does it provide background to your research? (Introduction or Literature Review)
- Does it describe the types of activity you used to collect evidence? (Methods)
- Does it present factual data? (Results)
- Does it place evidence in the context of background? (Discussion)
- Does it make recommendations for action? (Conclusion)

Top tip…
Reports for different briefs will require different sections to be included. Check your brief carefully for the sections to include in your final report.

The Abstract/Executive summary… is the 'shop window' for your report. It is the first (and sometimes the only) section to be read and should be the last to be written. It should enable the reader to make an informed decision about whether they want to read the report itself. Length depends on the extent of the work reported - usually a paragraph or two and always less than a page. It should briefly explain:

- the purpose of the work
- methods used for research
- main conclusions reached
- any recommendations

The Introduction… should explain the rationale for undertaking the work reported on, and the way you decided to do it. Include what you have been asked (or chosen) to do and the reasons for doing it.

- State what the report is about. What is the question you are trying to answer? If it is a brief for a specific reader (e.g. a feasibility report on a construction project for a client), say who they are.
- Describe your starting point and the background to the subject: e.g., what research has already been done (if you have to include a Literature Review, this will only be a brief survey); what are the relevant themes and issues; why are you being asked to investigate it now?
- Explain how you are going to go about responding to the brief. If you are going to test a hypothesis in your research, include this at the end of your introduction. Include a brief outline of your method of enquiry. State the limits of your research and reasons for them, e.g.

"Research will focus on native English speakers only, as a proper consideration of the issues arising from speaking English as a second language is beyond the scope of this project".

The Literature Review… surveys publications (books, journals and sometimes conference papers) on work that has already been done on the topic of your report. It should only include studies that have direct relevance to your research.

Introduce your review by explaining how you went about finding your materials, and any clear trends in research that have emerged. Group your texts in themes. Write about each theme as a separate section, giving a critical summary of each piece of work, and showing its relevance to your research. Conclude with how the review has informed your research (things you'll be building on, gaps you'll be filling etc).

The **Methods…** should be written in such a way that a reader could replicate the research you have done. State clearly how you carried out your investigation. Explain why you chose this particular method (questionnaires, focus group, experimental procedure etc). Include techniques and any equipment you used. If there were participants in your research, who were they? How many? How were they selected?

Write this section **concisely** but **thoroughly** – Go through what you did step by step, including everything that is relevant. You know what you did, but could a reader follow your description?

The **Results/Data/Findings…** this section has only one job, which is to present the findings of your research as simply as possible. Use the format that will achieve this most effectively: e.g. text, graphs, tables or diagrams. Don't repeat the same information in two visual formats (e.g. a graph and a table).

Label your graphs and tables clearly. Give each figure a title and describe in words what the figure demonstrates. Save your interpretation of the results for the Discussion section. For help with statistical analysis, try the Maths Support Centre www.rdg.ac.uk/mathssupport/ or the Statistical Advisory Service www.rdg.ac.uk/stats-advisory.

The **Discussion…** is probably the longest section. It brings everything together, showing how your findings respond to the brief you explained in your introduction and the previous research you surveyed in your literature review. This is the place to mention if there were any problems (e.g. your results were different from expectations, you couldn't find important data, or you had to change your method or participants) and how they were or could have been solved.

The **Conclusions…** should be a short section with no new arguments or evidence. Sum up the main points of your research. How do they answer the original brief for the work reported on? This section may also include:

- Recommendations for action
- Suggestions for further research

The **Reference List/Bibliography…** list full details for any works you have referred to in the report. For the correct style of referencing to use, check any instructions you may have been given.

If you are uncertain about how or when to reference, see our **Effective Study Guides on Referencing**, available in paper or online at www.rdg.ac.uk/studyskills/study_resources/referencing.htm.

The **Appendices…** include any additional information that may help the reader but is not essential to the report's main findings; for instance, interview questions, raw data, or a glossary of terms used. Label all appendices and refer to them where appropriate in the main text (e.g. 'See Appendix A for an example questionnaire').

For more information, see….

Report writing 1. Features of good reports.

Report writing 3. Writing your report.

www.learnhigher.ac.uk/learningareas/reportwriting/introduction.htm

For more on this and other aspects of academic study, see our website at **www.rdg.ac.uk/studyadvice**

Effective Study Guides

University of Reading

Writing your report

Report writing 3

This guide is the third of three on report writing at university. It includes:

- Good writing style
- Writing academically
- Finishing touches

Good writing style

When you write a report you are communicating your knowledge about a set of actions to a reader. The key here is **communication**. A good piece of advice is to 'write to express, not to impress'. Here are some tips for achieving this:

- Write in paragraphs which have one main point that you introduce, expand on, and summarise.
- Using shorter sentences avoids over-complexity.
- Avoid using colloquialisms and informality in academic writing.
- Write words out in full, for instance use 'do not' instead of 'don't'.
- Do use appropriate technical terms, but try to avoid jargon – consider who is likely to read your report and whether they will understand the terms you use.
- If you're not sure how to use punctuation, see our advice at www.rdg.ac.uk/studyskills/study_resources/study_guides/punctuation.htm

Writing academically

Writing academically means writing in such a way that your information sounds credible and authoritative. It does not mean:

- Using long words
- Writing complicated sentences with lots of semi-colons and colons

Some suggestions for writing academically:

Be objective – report what the evidence tells you even if it isn't what you hoped to find. Don't present unsupported or personal opinions: for instance, 'Unsurprisingly, participants who recycled their refuse more regularly were also nicer people'. Take a balanced view.

Be accurate – give clear non-subjective descriptions ('light blue' is better than 'sky blue') and definite figures ('after twenty five minutes', '80% of the participants'). Avoid vague or ambiguous terms like 'a long period of time', or 'most of the participants'.

Be direct – don't leave it to your reader to work out what you are saying! Putting the emphasis on a strong verb can help the reader to see the important points: for instance, 'an analysis was performed on the results' is not as direct as 'the results were analysed'.

Be critical – evaluate your own work as well as that of others. Have the confidence to say if something could have been done better if it had been done differently.

Be appropriate – identify the purpose of your communication and the audience you are communicating to. Give them the information they need to understand your work.

It always used to be recommended in academic writing that you used the passive voice – in other words, 'the experiment was conducted' rather than 'we conducted the experiment'. Many people recognise now that this can make writing pompous and overly complicated. It's worth considering whether using the active voice (i.e. I did, we did) will make the actions you are reporting easier to understand. Check any instructions you have for guidelines on this - if in doubt, use the passive voice.

Writing your report

Reports are written to describe work completed in response to a particular brief, either one that has been given to you, or one you have set up yourself. So:

- **write in the past tense** (as you are reporting on what has happened)
- **always bear the brief in mind while you are writing**

An important difference between essays and reports to bear in mind:

- essays are written in a single narrative voice from beginning to end
- reports are written in sections which may use different styles of writing, depending on the purpose of the section

So, for instance, your Methods and Results sections will be descriptive, your Introduction will be explanatory, and your Literature Review and Discussion sections will be analytical.

See **Report writing 2. Structuring your report** for more on sections.

Here is a suggested order for writing the main sections:

1. **Methods** and **Data/Results**: As a rough guide, the more factual the section, the earlier you should write it. So sections describing 'what you did and what you found' are likely to be written first.

2. **Introduction** and **Literature Survey**: Sections that explain or expand on the purpose of the research should be next: what questions are you seeking to answer, how did they arise, why are they worth investigating? These will help you to see how to interpret and analyse your findings.

3. **Discussion**: Once you've established the questions your research is seeking to answer, you will be able to see how your results contribute to the answers, and what kind of answers they point to. Write this early enough that you still have time to fill any gaps you find.

4. **Conclusions** and **Recommendations**: These should follow logically from your Discussion. They should state your conclusions and recommendations clearly and simply.

5. **Abstract/Executive Summary**: Once the main body is finished you can write a succinct and accurate summary of the main features.

Finishing touches

If you're going to go to the trouble of writing an excellent report, it's a shame to spoil it with careless finishing. If you give yourself time to check details you can make your presentation as good as your content.

Referencing – Your course handbook should explain the style of referencing preferred by your department. Check that you have all the necessary details in the right places. If you've lost the details of a source, don't include it – unacknowledged sources could be read as plagiarism.

Proof reading – Print your work off to proof read – you are more likely to spot errors. It can help to read aloud. Use spell and grammar checkers wisely – make sure changes won't affect what you wanted to say.

Title page, contents, list of illustrations – Not all reports will need all of **t**hese sections. If yours does, they will probably be the last sections to write, once you are certain that the page order will not change.

Top tip…

A well presented report looks professional and gives the impression that its author cared about getting things right – you can lose marks by not doing this properly! Check whether your department has advice on the exact format. Much of the information you will need will be accessible online, on Blackboard or your Dept's website. If you can't find information about deadlines, referencing etc, ask someone. Don't guess – guessing wrong could cost you marks.

For more information, see….

Report writing 1. Features of good reports.

Report writing 2. Structuring your report.

www.learnhigher.ac.uk/learningareas/reportwriting/introduction.htm

For more on this and other aspects of academic study, see our website at **www.rdg.ac.uk/studyadvice**

Identify the Audience and Purpose Exercise

For each of the following report briefs, identify:

- Who the audience is
- Why the report is needed
- What the audience want to find out

Report Briefs:

1. Write a report for the Students Union of your university on students' attitudes to binge drinking.

2. Report on the medical effects of binge drinking on university students in the UK for a major alcopop manufacturer.

3. Conduct the experiment into the elasticity of chewing gum, and hand in your lab report to your lecturer by 20th November.

4. After carrying out the experiment into the elasticity of chewing gum, write up your findings in a report for a children's magazine.

5. Report for the charity "Greenpeace" on the use of Facebook amongst 18-25 year olds as a means of social action and protest.

6. Investigate the use of Facebook as a means of social action and protest by 18-25 year olds. This report has been commissioned by the Metropolitan police.

Organise your Report Exercise

The order in which the sections of these reports should go has been mixed up - rearrange them into the most logical order.

For a quick exercise, simply re-number – a better way, if you have more time, is to write the contents list out from scratch. Note that some information may go under a sub-heading within a particular section – you will need to work out where they belong.

Example A) Students' Preferences for Food Retailers on Campus

New order?

Appendices: Surveys and interview transcripts
Expansion of eating venues on campus in the last 5 years
Data Collection: Qualitative surveys and semi-structured interviews
Summary
Results: Semi-structured interviews
Discussion: Preferences for each venue
Aims and Objectives
Recommendations: Students want healthier food retailers
Results: Pilot survey
Overview of existing food retailers: union, library cafe, food hall
Bibliography

Example B) Suitability of Open Source Software for Start-Up Technology Companies

New order?

Case Study 2: Out of the Box Design
Definition of Open Source Software
Bibliography
Case Study 1: Blue Sky Ltd
Executive Summary
Discussion: Themes from case studies
Recommendations
List of abbreviations
Survey of currently available Open Source Software
Conclusion: Advantages and Disadvantages of Open Source Software
Case Study 3: Marketing Web
Methodology: Case studies of small technology companies

Example C) **Lactic Acid Production in the Muscles of Swimmers During Different Types of Training**

New order?

Figure 3. Combination training
Conclusion
Abstract
Experiment 1: Aerobic exercise
Literature Review
Experiment 3: Combination training
Results
Aims and Hypotheses
Figure 1. Aerobic exercise
Introduction: Production of lactic acid when exercising
Figure 2. Anaerobic exercise
Discussion
Methods
Bibliography
Experiment 2: Anaerobic exercise

Sections of a Report Exercise

Here are some of the most commonly found sections of a report:

- Abstract
- Introduction / Literature review
- Methods
- Results
- Discussion
- Conclusion

For this exercise, read the following short extracts from reports found in various journals. Decide which of the above sections they are from, and why they are appropriate for this section.

Example 1: There were several barriers identified by the pharmacists to Informed Shared Decision Making (ISDM). One major barrier was perceived lack of collaboration between pharmacists and physicians. Some of the pharmacists said that they were often reluctant to intervene because physicians were not receptive to their interventions. The current literature agrees with this point of view, suggesting that most pharmacist-physician relationships in the community setting are not at a stage to allow seamless interdisciplinary collaboration. However it was surprising to find such a large number of pharmacists from the hospital category also express lack of teamwork as a barrier.

Example 2: In the fatal accident case outlined, health and safety legislation had been at best misunderstood and at worse ignored. Consideration of fundamental aspects of health and safety planning under the Construction Design and Management Regulations (1994) was clearly lacking, with deficiencies apparent at both pre-contract and sitework stages. Moreover, there was disregard to fundamental health, welfare and safety provision under current legislation.

Example 3: During the first 33 weeks, the mean weight decreased among those who completed the course by 5.0kg (6.5%) in women ($p<0.001$) and 11.1kg (8.25%) in men ($p<0.001$). The initial weight loss was maintained during the first year, but during the second year some of the body weight was regained (1.2kg among women and 6.5kg among men). However, at 2 years the mean weight was still significantly decreased by almost 4% in both sexes.

Example 4: Tourism-led development is clearly an emerging theme in South African Local Economic Development (LED) (Rogerson, 1997, 2001), with tourism promotion geared towards community development being perceived as a viable growth option (Goudie et al., 1999; Kirsten and Rogerson, 2002; Mahoney and van Zyl, 2002). However despite the prominence accorded to tourism in South Africa's broad development vision and in many local level strategies, as Rogerson notes, in studies of LED '...tourism-led LED is markedly under-represented and little discussed' (Rogerson, 2002: 1).

Example 5: Taking a memory test not only assesses what one knows, but also enhances later retention, a phenomenon known as the testing effect. We studied this effect with emotionally relevant materials and investigated whether testing facilitates learning only because tests offer an opportunity to restudy material. In two experiments, students studied prose passages and took one to three immediate free-recall tests, without feedback, or restudied the material the same number of times as the students who received tests. Students then took a final retention test 5 min, 2 days, or 1 week later. When the final test was given after 5 min, repeated studying improved recall relative to repeated testing. However, on the delayed tests, prior testing produced substantially greater retention that studying, even though repeated studying increased students' confidence in their ability to remember the material. Testing is a powerful means of improving learning, not just assessing it.

Example 6: Sixteen crabs were fasted for 24 hours and then tested. In control tests, seawater was used on both sides of the Y-maze. each crab was allowed to acclimate in the maze for 8-12 hours and then tested with the effluent and seawater control. This was then repeated for the other muscle species about 10 hours later. Initial response tests were completed within 24 days.

Example 7: It may at first seem somewhat surprising that acid-charcoal treatment has so little effect on the structure of serum albumin, since this protein undergoes a molecular unfolding at acid pH which exposes hydrophobic residues to the solvent, and charcoal has a tremendous affinity for such hydrophobic surfaces. A possible explanation may be that at acid pH charcoal particles do in fact become tightly "coated" with albumin which is not substantially released. Lau et al. (37) have shown that albumin treated Norit has different absorptive properties than does untreated charcoal.

Example 8: As the field of artificial life emerged, researchers began applying principles such as stigmergy (indirect communication between individuals via modifications made to the shared environment) to achieve "collective" or "swarm" robot behaviour. Stigmergy was first described by Grassé to explain how social insect societies can collectively produce complex behaviour patterns and physical structures, even if the individual appears to work alone. Deneubourg and his collaborators pioneered the first experiments on stigmergy in simulated and physical "ant-like robots" in the early 1990s. Since then, numerous researchers have developed robot collectives and have used robots as models for studying social insect behaviour.

Academic Writing Exercise

Read the following extracts from reports.

In each case identify the main problem with the writing style, then rewrite the problematic sentences so they are more suitable for an academic report.

Example 1: After adding the solution, the mixture in the test tube went a bright scarlet red, which we did not expect, as this was not the same as the washed out pink colour it was supposed to go according to the book. We shook the test tube up and left it for a while in the test tube stand. When we came back, the mixture had settled to the bottom and dried out, which it was not supposed to have happened; this was a bit of a problem.

Example 2: The results of the aforementioned experiment were collated in a systemized manner with all due care and attention. Once the results had been collected and processed with the appropriate process, it was necessary to perform the analysis upon them which was conducted using the computer statistical package previously mentioned in the methodology.

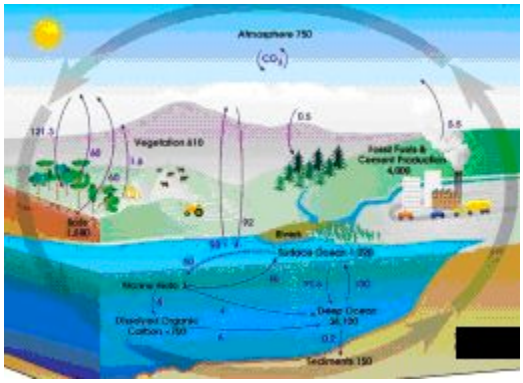
Example 3: The questionnaire will be carried out in the pubic space next to the town hall, were local residents can be found and stopped. If we can't find enough local people to answer our survey, we'll do down the street and see if we can find some more in the shopping centre as there tends to be local youths hanging around their who we could ask.

Example 4: This is a feasibility study of the proposed extension to the property "22 Trumpington Terrace" commissioned by the residents Mr and Mrs Phelps. The house is a semi-detached, two bedroom propery with glazed windows and a red door. It is situated on a quiet, winding street with nearby houses of a similar design and the residents have started a local Neighbourhood Watch group. The Phelps inherited the house from Mr Phelps' uncle and have been in residence there since 31st August 1998.

Using Graphical Data Exercise

Look at the following images and consider how they could be improved to be more suitable for an academic report:

Example 1: A diagram from a report on global warming

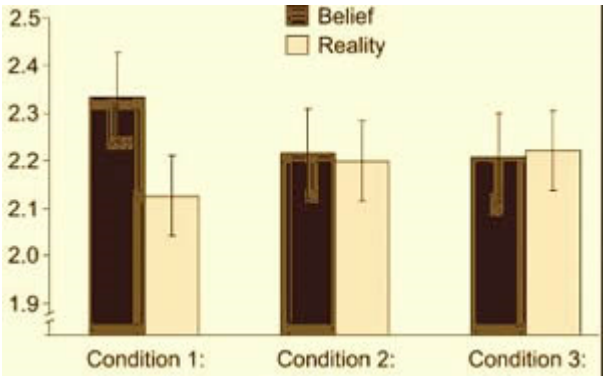


Example 2: Photos from a report on pig farming

Some cute pigs from Millbank Farm

A view of Millbank Farm

Example 3: A bar chart from an experiment testing if belief reasoning is automatic



Example 4: Table from educational report on GCSE grades

English →
GCSE Grade
Maths

↓	A*-A	B-C	D-E	F-G	Fail	
A*-A	10	6	1			17
B-C	3	30	16	2		51
D-E			3	19	3	25
F-G						
Fail						
	13	36	20	21	3	93

The images for this exercise have been adapted from:

1) OregonWild www.oregonwild.org

2) Apperly, I.A., Riggs, K.J., Simpson, A. Chiavarino, C., and Samson, D. (2006). "Is Belief Reasoning Automatic?" *Psychological Science*, 17(10), 841-44.

3) Photos by Misterreels and Andy Culpin from Stock.xchng

Identify the Audience and Purpose – possible answers

Note that these are only suggested interpretations of the briefs - your answers may differ.

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1) Write a report for the Students Union of your university on students' attitudes to binge drinking.

Audience: Students Union - e.g. sabbatical and other union officers, maybe also union bar managers and staff

Why report is needed: More students are drinking heavily, causing health and social problems at universities. Also possibly problems for bar staff.

What they want to find out: Are students worried or unconcerned about their drinking? Does the Union need to run awareness campaigns, cut happy hours, and offer alternatives to drinking?

---

2) Report on the medical effects of binge drinking on university students in the UK for a major alcopop manufacturer.

Audience: Alcopop manufacture - e.g. marketing managers, senior managers.

Why the report is needed: Growing pressure on drinks companies to promote responsible drinking.

What they want to find out: What the medical dangers of binge drinking are and how the company can adjust their advertising to avoid accusations of promoting irresponsible drinking.

---

3) Conduct the experiment into the elasticity of chewing gum, and hand in your lab report to your lecturer by 20th November.

Audience: Your lecturer - e.g. a professional science researcher.

Why the report is needed: To demonstrate that the experiment has been conducted accurately.

What they want to find out: Whether you have understood the experiment, including the methods and the theory behind it, and can interpret the results.

---

4) After carrying out the experiment into the elasticity of chewing gum, write up your findings in a report for a children's magazine.

Audience: Juvenile readers of the magazine.

Why the report is needed: To show children how a science experiment can be fun and relevant to them.

What they want to find out: What is the most stretchy chewing gum, and how can they do similar experiments themselves.

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5) Report for the charity "Greenpeace" on the use of Facebook amongst 18-25 year olds as a means of social action and protest.

Audience: Greenpeace - e.g. campaign officers, fundraisers.

Why the report is needed: More young people are using social networking sites as a way to organise campaigns and social action.

What they want to find out: Can Greenpeace use Facebook as a tool to reach young people and involve them in the charity?

---

6) Investigate the use of Facebook as a means of social action and protest by 18-25 year olds. This report has been commissioned by the Metropolitan police.

Audience: Metropolitan Police - especially managerial staff concerned with public order, technology staff.

Why the report is needed: More young people are using social networking sites as a way of organising protests and demonstrations.

What they want to find out: How changes in technology result in changes in the way protest groups organise themselves. Can the police anticipate protests by monitoring sites like Facebook?

Organise your Report Answers

These are just suggested orders - you may have arranged your sections slightly differently. For example C) has two possible orders. As long as you have the sections in a logical order that the reader can follow, it will be fine.

Example A) Survey of Students' Preferences of Food Retailers on Campus

1 Summary
2 1. Expansion of eating venues on campus in the last 5 years
3 2. Overview of existing food retailers: union, library cafe, food hall
4 3. Aims and Objectives
5 4. Data Collection: Qualitative surveys and semi-structured interviews
5. Results
6 5.1 Pilot Survey
7 5.2 Results: Semi-structured interviews
8 6. Discussion: Preferences for each venue
9 7. Recommendations: Students want healthier food retailers
10 Bibliography
11 Appendices: Surveys and interview transcripts

Example B) Suitability of Open Source Software for Start-Up Technology Companies

1 Executive Summary
2 List of Abbreviations
3 1. Definitions of Open Source Software
4 2. Survey of currently available Open Source Software
5 3. Methodology: Case studies of small technology companies
4. Case Studies
6 4.1 Blue Sky Ltd
7 4.2 Out of the Box Design
8 4.3 Marketing Web
9 5. Discussion: Themes from case studies
10 6. Conclusion: Advantages and Disadvantages of Open Source Software
11 7. Recommendations
12 Bibliography

Example C) Lactic Acid Production in the Muscles of Swimmers During Different Types of Training

1 Abstract
2 1. Introduction: Production of lactic acid when exercising
3 2. Literature Review
4 3. Aims and Hypotheses
5 4. Methods
6 4.1 Experiment 1: Aerobic exercise
7 4.2 Experiment 2: Anaerobic exercise
8 4.3 Experiment 3: Combination training
9 5. Results
10 5.1 Figure 1. Aerobic exercise
11 5.2 Figure 2. Anaerobic exercise
12 5.3 Figure 3. Combination training
13 6. Discussion
14 7. Conclusion
15 Bibliography

Another possible order could be like this:

Abstract
1. Introduction: Production of lactic acid when exercising
2. Literature Review
3. Aims and Hypotheses
4. Experiment 1: Aerobic exercise
    4.1 Methods
    4.2 Results: Figure 1. Aerobic exercise
5. Experiment 2: Anaerobic exercise
    5.1 Methods
    5.2 Results: Figure 2. Anaerobic exercise
6. Experiment 3: Combination training
    6.1 Methods
    6.2 Results: Figure 3. Combination training
7. Discussion
8. Conclusion
Bibliography

Sections of a Report Answers

Example 1: Discussion

This can be identified as part of a discussion section: it explains the results of the experiment, linking it back to similar findings in the background literature, and offering a judgement about the results, "it was surprising to find..." The writing style is analytical and explanatory with longer sentences.

Example 2: Conclusion

This is a conclusion: it is making a final summing up of the findings of the report. The style is direct and clear, with one main conclusion per sentence.

Example 3: Results

This is taken from a results section: it describes the results of the experiment; no explanations are given in this section, as that comes in the discussion. The style of writing is direct, clear, and simply describes the findings.

Example 4: Introduction / Literature Review

This can be identified as an introduction or literature review section: it compares and contrasts the previous findings of other researchers. The writing style is analytical, as it does not just summarise the research, but notes trends and also gaps.

Example 5: Abstract

This is an abstract: it offers a one paragraph summary of the whole experiment. The style is concise and informative because a lot of information needs to be conveyed in few words. There is one sentence describing the context, methods, results, and conclusions.

Example 6: Method

This is a method section: it is a concise, step-by-step description of how the experiment was conducted. The sentences are short and to the point, with no unnecessary description.

Example 7: Discussion

This is a discussion: it offers an explanation for the results of the experiment. It also ties these findings back to the literature from the introduction. The prose style is longer and expresses judgements, offers explanations for these and backs them up with evidence.

Example 8: Introduction

This is taken from an introduction: it gives a brief overview of the context of the report, and also mentions a previous body of research on which this experiment will build. Although the introduction gives a general overview, it is targeted to the specific experiment, and is not too broad.

Excerpts taken from:

1. Kassam, R., Volume-Smith, C., and Albon, S.P. (2008). "Informed Shared Decision Making: An exploratory study in pharmacy". *Pharmacy Practice*, 6(2), 57-67
2. Griffith, A. (2004). "Health and Safety Planning for Demolition Projects". *Construction Information Quarterly*, 6(1), 3-8.
3. Andersson, K., and Karlström, B., Petersson, H., Öhrvall, M., and Zethelius, B. (2008). " A Two-Year Clinical Lifestyle Intervention Program for Weight Loss in Obesity*". Food Nutrition and* Research, 52.
4. Binns, T., and Nel, E. (2002). "Tourism as a Local Development Strategy in South Africa*". The Geographical* Journal, 168(3), 235-47.
5. Roeduger, H.L., and Karpicke, J.D. (2006). "Test-Enhanced Learning: Taking memory tests improves long-term retention". *Psychological Science,* 17, 249-55.
6. Ristvey, A., and Rebach, S. (1999). "Enhancement of the Response of Rock Crabs (Cancer irrotatus) to Prey Odors following Feeding Experience". *Biological Bulletin*, 197(3), 361-67.
7. Chen, R.F. (1967). "Removal of Fatty Acids from Serum Albumin by Charcoal Treatment". *Journal of Biological Chemistry*, 242, 173-81.
8. Fong, T., Nourbakhsh, I., and Dautenhahn, K. (2003). "A Survey of Socially Interactive Robots*". Robotics and Autonomous* Systems, 42, 143-66.

Using Graphical Data Answers

Example 1: The diagram is too small and blurred to be understood. There is no title explaining what the diagram is, and no key to identify what the arrows and figures mean. Because there is no title, there is also no way of referring to the diagram in the report e.g. "see figure 1." Also, the diagram is not referenced, and there is no attribution showing where it came from.

Diagrams need to be large enough to be clear for the reader - even this larger version below could have a clearer key with more distinct colours for the arrows and numbers.

A better example:

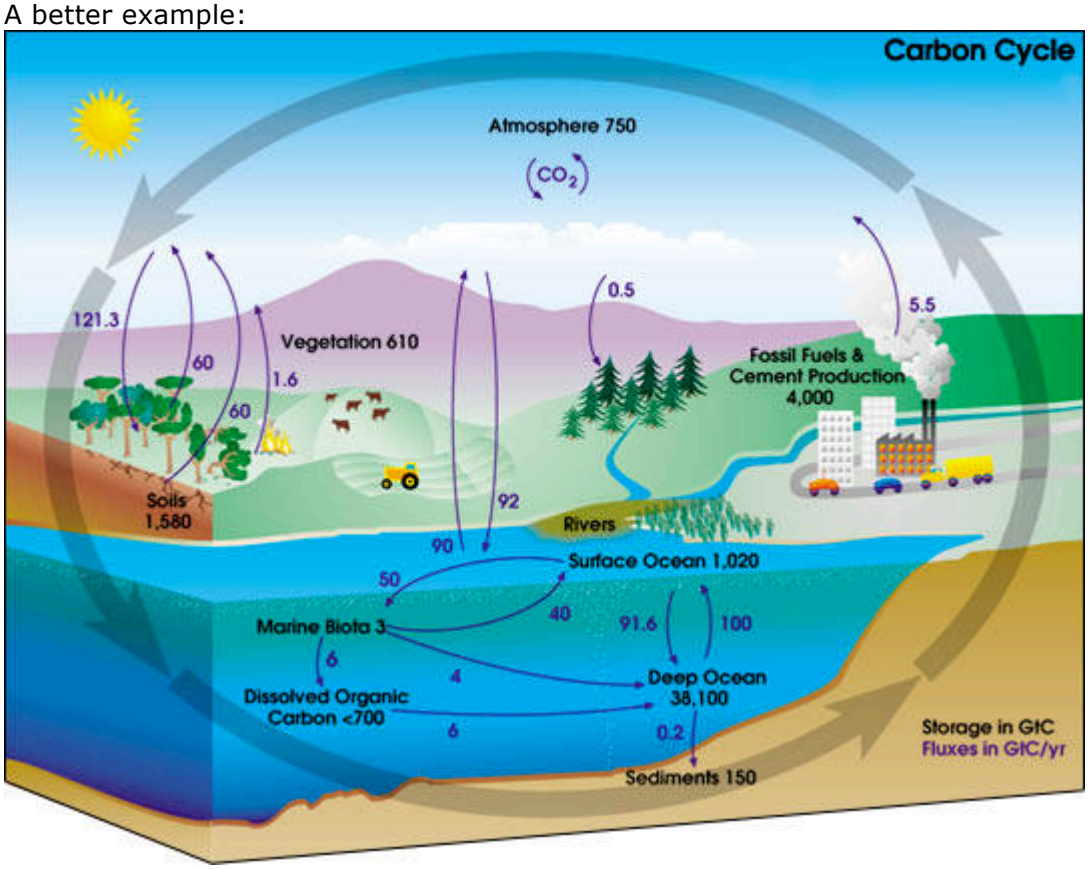

Fig. 1: The Carbon Cycle showing carbon flux and carbon storage. Diagram taken from OregonWild www.oregonwild.org

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Example 2: The photographs do not add any information to the report on pig farming. Photograph 1. is merely there to be "cute" and photograph 2. does not show any useful detail of farming procedures.

Photographs need to be relevant and included for a purpose. If you are just adding photos to make your report look pretty, better to leave them out as they can detract from your message.

Example 3: The bar chart has no label on the Y axis and a very vague label on the X axis. The colour of the "belief" bars and the background makes the graph difficult to read. There is no overall title for the graph.

A better example:

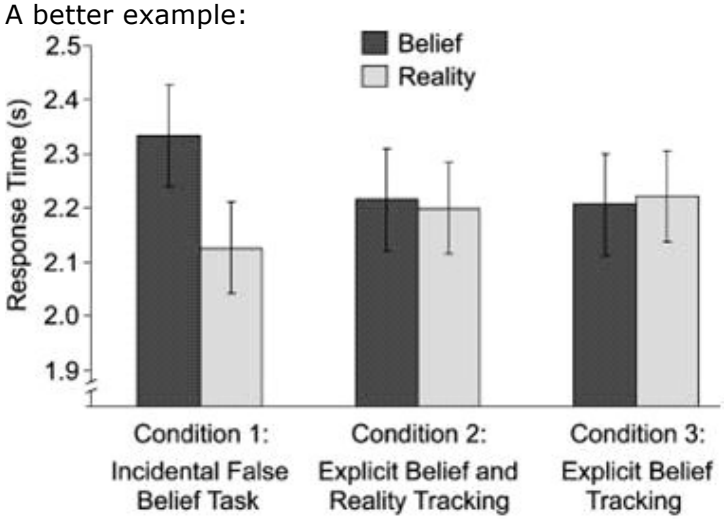

Fig. 2: Mean response times (bars represent standard errors) for belief and reality probes in Conditions 1

Example 4: The table is hard to understand as there are no grid lines and the sizes of the columns are all different. There are no labels for the "Total" columns and no overall title explaining the table.

A better example:

			English GCSE				
	GCSE Grade	A*-A	B-C	D-E	F-G	Fail	**TOTAL No. Pupils**
	A-A*	10	6	1			17
Maths GCSE	B-C	3	30	16	2		51
	D-E			3	19	3	32
	Fail						
	TOTAL No. pupils	13	36	20	21		93

Fig. 5 Comparison of GCSE Maths grades against GCSE English grades for pupils at Grange Hill School (2006).

The images for this exercise have been adapted from:

1) OregonWild www.oregonwild.org

2) Apperly, I.A., Riggs, K.J., Simpson, A. Chiavarino, C., and Samson, D. (2006). "Is Belief Reasoning Automatic?" *Psychological Science*, 17(10), 841-44.

Academic Writing Answers

These are suggested rewritings of the paragraphs: yours may be slightly different.

Example 1:

This writing is too subjective ("bright scarlet red") and inaccurate ("left it for a while"). It also mixes results and interpretations of results in with the method, instead of simply describing the procedure. The overall style is too personal ("this was a bit of a problem"), as opposed to the objective style expected in a scientific report.

A better version:

After adding the solution, the test tube was inverted and shaken three times. It was then left in the test tube stand for 10 minutes for the reaction to occur. The colour of the mixture was then compared to the scale in the book.

Example 2:

This style is overly complex and wordy ("aforementioned" and "systemized"). It manages to say very little and could be condensed to a single sentence - saving 38 empty words.

A better example:

The results were collated, processed, and then analysed using the appropriate statistical programme.

Example 3:

This extract has not been proofread carefully as shown by the use of "pubic" instead of "public", "were" instead of "where", and "their" instead of "there". The style is too informal, as there are colloquial expressions from everyday speech ("go down the street") and also contractions of words ("can't" instead of "cannot"). Also the method is not very scientific and it would be better to explain why more residents and another location needs to be found. The writing style is also personal ("If we can't find..."), so it may be more appropriate to rephrase it in the third person.

A better version:

The questionnaire will be carried out in the public space next to the Town Hall, where local residents can be found and stopped. If there are not enough residents to complete the required sample, an alternative location will be found where there are more passing residents, for example in the shopping centre.

Example 4:

This extract includes a lot of unnecessary detail. The audience of the report is the property owners, so they will already know that they inherited the house from an uncle and that they have been living there since August 1998. Also is it really necessary to include information about the door colour and Neighbourhood Watch scheme in a report on a house extension?

A better version:

This is a feasibility study of the proposed extension to the property "22 Trumpington Terrace" commissioned by the residents Mr and Mrs Phelps. The house is semi-detached with two bedrooms and double-glazed windows. It is situated on a quiet street alongside similar properties.