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**Engineering Reports and Case Studies**

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**Acknowledgement**

Mr John Gibson is a highly regarded educator and engineer. John taught Industrial Arts at a number of high schools before taking a position at Sydney Teachers’ College, then University of Sydney. He had an engineering education consultancy and has extensive experiencing working with NESA on Engineering Studies syllabus development and the HSC examination committee. The STEM Industry School Partnerships (SISP) Program asked John for his responses to the iTeachSTEM topic discussion questions. SISP is grateful to John for submitting these example discussion responses.

# What are the purposes of engineering reports?

* to document detail of the construction process
* to ensure that the design brief has been followed
* to ensure that the outcomes have been achieved
* to document an accurate record of processes and material
* a reference for future work
1. **Who writes an engineering report?**
* the principal contributors to the project, with relevant input from team leaders, trades and industries
* also, external advice from local Council authorities, legal firms and financial professionals
1. **What are the key components of an engineering report?**
* introduction and purpose
* a summary of the processes and procedures carried out
* materials and equipment used
* safety measures undertaken
* an assessment of the functionality of the finished project
* conclusions and references
1. **Who is the audience for an engineering report?**
* the construction company executives
* legal firms in a case where some complaint or challenge is being brought from outside parties
* design specialists, financiers and members from relevant legal and engineering fields involved
1. **What data is collected for an engineering report?**

* local maps
* historical records
* financial statements
* design plans
* surveyors’ records
* council documents
* computer data
* safety issues
1. **How is data collected and displayed?**
* data is collected from numerous sources relating to the project eg. Libraries, government bodies, engineers’ reports, research papers
* data is displayed as written documents, digital files, photographic images, charts, exhibits
1. **Why is test data and the method of testing important?**
* Test data from various testing procedures is important, if not crucial, to the work of engineers. Should a test be used inaccurately or improperly, the data output cannot be considered valid. Injury, or even death, can result from the use of incorrect data.