Stage 1 Physics

Investigations Folio Task: Science as a Human Endeavour

The Past, Present and Future of Rocket Science

* Choose *one* of the options in the boxes below, or create your own area of research.
* Consider which aspect(s) of Science as a Human Endeavour from pages 12 and 13 in the subject outline will be your main focus.
* Select your presentation format.
* Construct a one page outline to receive feedback to help shape your final submission. Due date: \_\_\_\_\_\_\_\_

Final Submission has a word limit of 1000 words or a 6 minute video. Due date: \_\_\_\_\_\_\_\_\_\_

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|  | **LOCAL** | **GLOBAL** |
| **PAST** | Create a full page news article exploring South Australia’s involvement in cutting edge rocket research at the Woomera Rocket Range in the 1950s and link it to proposed new uses of Woomera.  You will seek to write a balanced article that describes relevant physics and the interaction between science and society considering aspects of military involvement and impacts on the indigenous population. | Rockets have propelled us to the Moon and helped us explore our Universe and yet they have also brought great devastation.  Write a full page news article explaining the physics behind rocket propulsion and the main societal drivers of the science of rockets and subsequent benefits and harm. |
| **PRESENT** | Funding Request: Write a letter to the Sir Ross and Sir Keith Smith Fund to request funding to enable your school to participate in the Launchbox satellite program.  Explain the physics behind the program and how student involvement in science programs such as Launchbox could benefit your school community and the broader community. | The International Space Station program is a collaboration of Canada, Japan, the Russian Federation, the United States, and eleven Member States of the European Space Agency.  In a magazine article explore one example of physics research being undertaken through the ISS and how political, economic and cultural factors have influenced this scientific endeavour, and how the program in turn has influenced the members of the collaboration. |
| **FUTURE** | Letter to the minister: Write a letter to the relevant government minister to implore them to increase funding for space research here in SA. Explain the physics behind one way the money could be spent. | Advertorial: Construct an advertorial for Space X or Virgin Galactic. The information piece is to detail future benefits of such privately run ventures and the benefits of space for profit. Include the physics behind one example of one of these ventures. |

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

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Investigations Folio Task: Science as a Human Endeavour

The Past, Present and Future of Rocket Science - Assessment

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| **Notes** | **SF** | **A** | **B** | **C** | **D** | **E** |  |
| Explaining relevant physics | **KA1** | Demonstrates deep and broad knowledge and understanding of a range of physics concepts. | Demonstrates some depth and breadth of knowledge and understanding of a range of physics concepts. | Demonstrates knowledge and understanding of a general range of physics concepts. | Demonstrates some basic knowledge and partial understanding of physics concepts. | Demonstrates limited recognition and awareness of physics concepts. | I |
| Discussion of factors that lead to development of space technology.  Discussion of impact of space technology on society. | **KA3** | Critically explores and understands in depth the interaction between science and society. | Logically explores and understands in some depth the interaction between science and society. | Explores and understands aspects of the interaction between science and society. | Partially explores and recognises aspects of the interaction between science and society. | Attempts to explore and identify an aspect of the interaction between science and society. | I |
| Use of appropriate terminology  Reference list or bibliography | **KA4** | Communicates knowledge and understanding of physics coherently, with highly effective use of appropriate terms, conventions, and representations. | Communicates knowledge and understanding of physics mostly coherently, with effective use of appropriate terms, conventions, and representations. | Communicates knowledge and understanding of physics generally effectively, using some appropriate terms, conventions, and representations. | Communicates basic physics information, using some appropriate terms, conventions, and/or representations. | Attempts to communicate information about physics. | I |