JOHN EDMONDSON HIGH SCHOOL
Assessment Notification

Faculty: Science Course: Investigating Science Year: HSC12

Assessment Task: Depth Study- Secondary Source Investigation Task

Assessment Weighting: 30% Due: Term 2 Week 9 Date: 25/6/2024

Task Type: Hand in Task ☒ In Class Task ☒ Practical Task ☐

Outcomes assessed (NESA)
Analyses and evaluates primary and secondary data and information. (INS 11/12-5) Solves scientific problems using primary and secondary data, critical thinking skills, and scientific processes. (INS 11/12-6) Communicates scientific understanding using suitable language and terminology for a specific audience or purpose. (INS 11/12-7) Use evidence-based analysis in a scientific investigation to support or refute a hypothesis (INS12-14) Evaluate the implications of ethical, social, economic, and political influences on Science. (INS 12-15) Syllabus covered: Module 7: Fact or Fallacy? The scientific process is the most powerful tool available for generating knowledge about the world. It uses evidence and measurement to find truth and highlight misinterpretations and misrepresentations. Science, as a human endeavour, is subject to human failings, which can contribute to fallacies, misinterpretations, and, on occasion, fraud. For this reason, scientific processes attempt to compensate for human failings by questioning evidence, re-testing ideas, replicating results, and engaging with peer review to evaluate research. Students investigate claims by conducting practical and secondary-sourced investigations and evaluating them based on scientific evidence. They explore examples of scientific claims made in the media and investigate the benefits of peer review. **Reading Between the Lines** Inquiry question: How does the reporting of science influence the general public's understanding of the subject? Students: ● examine a contemporary scientific debate and how it is portrayed in the mainstream media, including but not limited to: – accuracy of information – validity of data – reliability of information sources ● evaluate the use and interpretation of the terms 'theory', 'hypothesis', 'belief' and 'law' in relation to media reporting of scientific developments ● compare the difference in reporting between a peer-reviewed journal article and a scientific article published in popular media

Task Description/Overview

This assessment task will require you to complete a Depth Study Secondary Source Investigation, create an informative poster, and submit your report through CANVAS or to D02 by 8:20 am

You will complete a Depth Study Secondary Source Investigation to evaluate the scientific credibility of a movie or TV Show by creating a poster that analyses the accuracy of the movie and the reliability of the movie or TV show as a scientific text.

The Depth Study

- Watch the movie or TV show at home (2-3 hours)
- Pre-understanding of the science addressed in this film/show. This would include research and a rationale of what scientific concept the real science relates to. (5 periods)
- Analysing the film/TV show and present your finding by creating a poster. (5 periods)

The poster is not to exceed A1 in size.

Detailed Assessment Task Description

You will complete a Depth Study Secondary Source Investigation to evaluate the scientific credibility of a movie or TV show by creating a poster that analyses the accuracy of the movie and the reliability of the movie as a scientific text.

1. Choose a movie/TV show that portrays scientific concepts or events. Each student needs to choose a different movie/TV Show. The movies/shows cannot be from the same series as another student (e.g., Star Wars Episode 1 and Star Wars Episode 4).
   Notify Mrs Stoker of the movie/TV Show. Watch the movie/TV Show at home.

2. Create a poster that evaluates the scientific accuracy and reliability of the movie/TV show. The poster should include the following sections:

   a. Title: A creative title that reflects the movie/TV show and the focus of your poster (2 marks).

   b. Introduction: A clear and thorough movie/TV show outline (4 marks).

   c. Description: A detailed description of TWO scenes in the movie/TV Show that portray a scientific event, idea, or concept. You should use a visual is your answer (4 marks).

   d. Accuracy Analysis: A detailed evaluation of the accuracy of TWO scientific concepts or events portrayed in the movie/TV show. You must include specific examples of where the science was accurate or inaccurate and explain why they are accurate or inaccurate. Your response must refer to scientific theories, laws, or current research to support your evaluation. You should use graphs, diagrams, or illustrations to support your evaluation (10 marks).

   e. Outline: An outline of the theory, law, or hypothesis that the movie/TV show was portraying and a description of what one of the scenes (outlined above) would look like if it was scientifically accurate. (5 marks)

f. Discuss (Identify ethical issues and provide points for and/or against) the implications of the movie's influence on science. Is it ethical that a movie knowingly portrays science incorrectly? (5 marks)

3. The poster should be visually appealing and easy to read. You can use images, graphics, and colours to enhance your poster (5 marks).
4. The poster should communicate scientific understanding using suitable language and terminology for a specific audience or purpose using correct grammar, punctuation, and spelling. (5 marks)
5. Bibliography: Include references to any sources of scientific evidence and facts used in your poster, using the APA 7th edition referencing system outlined on the school website. This should be on the back of the poster (5 marks).

The poster is not to exceed A1 in size.

Total Marks: 45

Marking Criteria

	5	4	3	2	1
Title INS11/12-7				An insightful and creative title	A title
Introduction INS11/12-7		A clear and thorough introduction to the movie/show including the plot.	An introduction to the movie/show	Basic outline of the movie	Basic information about the movie
Description INS11/12-7		A thorough description of TWO scenes in the movie that portray a scientific event, idea, or concept. Uses a visual in the answer	A description of ONE scene in the movie that portrays a scientific event, idea, or concept and identifies another scene.	A description of ONE scene in the movie that portrays a scientific event, idea, or concept.	Identifying one scene.
Accuracy Analysis – scientific concept/event 1 INS12-14	Exemplary evaluation that includes: An evaluation of the accuracy of one specific example in the movie. A detailed explanation of why it is accurate or inaccurate. Refers to a scientific theory, law, or current research. Uses graphs, diagrams, or Illustrations in the analysis.	A thorough evaluation that includes: An evaluation of the accuracy of one specific example in the movie. A basic explanation of why it is accurate or inaccurate. Refers to a scientific theory, law, or current research. Uses graphs, diagrams, or Illustrations in the analysis.	Three of the features of a thorough evaluation.	Two of the features of a thorough evaluation.	At least one of the features of a thorough evaluation.
Accuracy Analysis – scientific concept/event 2 INS12-14	Exemplary evaluation that includes: An evaluation of the accuracy of a second specific example in the movie. A detailed explanation of why it is accurate or inaccurate. Refers to a scientific theory, law, or current research. Uses graphs, diagrams, or Illustrations in the analysis.	A thorough evaluation that includes: An evaluation of the accuracy of one specific example in the movie. A basic explanation of why it is accurate or inaccurate. Refers to a scientific theory, law, or current research. Uses graphs, diagrams, or Illustrations in the analysis.	Three of the features of a thorough evaluation.	Two of the features of a thorough evaluation.	At least one of the features of a thorough evaluation.
Outline INS11/12-6	A clear and thorough outline of one theory, hypothesis or law that was portrayed in the	An outline of one theory, hypothesis or law that was portrayed in the movie/show.	An outline of one theory, hypothesis or law that was portrayed in the movie/show.	Identifies one theory, law or hypothesis and outlines	Identifies one theory, law or hypothesis.

	movie/show. Includes any relevant equations and a detailed description of what an accurate portrayal of the theory/hypothesis/law would look like.	Includes any relevant equations and a description of what an accurate portrayal of the theory/hypothesis/law would look like.	A description of what an accurate portrayal of the theory/hypothesis/law would look like.	what it would have looked like if it was accurate.	
Implications of the movie's influence on Science INS12-15	A thorough discussion, providing points for and against, about the ethical implications of the movie's influence on science.	A good discussion, providing points for and against, about the ethical implications of the movie's influence on science.	A discussion, providing points for or against, about the implications of the movie's influence on science.	A discussion, providing a point for or against, about the implications of the movie's influence on science.	A point about the movie's influence on science.
Poster Presentation INS 12-7	Includes all of the following: Suitable, well-presented layout. Suitable colour scheme, easy to read. Suitable font size for headings, subheadings, and text. Incorporated diagrams, screenshots, graphs, and/or equations to justify and support analysis and explanations.	Includes most of the following: Suitable, well-presented layout. Suitable colour scheme, easy to read. Suitable font size for headings, subheadings, and text. Incorporated diagrams, screenshots, graphs, and/or equations to justify and support analysis and explanations.	Includes three of the following: Suitable, well-presented layout. Suitable colour scheme, easy to read. Suitable font size for headings, subheadings, and text. Incorporated diagrams, screenshots, graphs, and/or equations to justify and support analysis and explanations.	Includes two of the following: Suitable, well-presented layout. Suitable colour scheme, easy to read. Suitable font size for headings, subheadings, and text. Incorporated diagrams, screenshots, graphs, and/or equations to justify and support analysis and explanations.	Includes at least one of the following: Suitable, well-presented layout. Suitable colour scheme, easy to read. Suitable font size for headings, subheadings, and text. Incorporated diagrams, screenshots, graphs, and/or equations to justify and support analysis and explanations.
Communication of scientific understanding INS 12-7	Communicates scientific understanding using suitable language and terminology for a specific audience or purpose. Always use the correct punctuation, grammar, and spelling.	Communicates scientific understanding using suitable language and terminology. Mostly use the correct punctuation, grammar, and spelling.	Communicates scientific understanding using simple language and terminology. Sometimes use the correct punctuation, grammar, and spelling.	Communicates scientific understanding using basic language. Sometimes use the correct punctuation, grammar, and spelling.	Scientific communication is limited.
Bibliography INS 12-7	Five correctly referenced resources using the school website guidelines, including the movie/show.	Four correctly referenced resources, including the movie/show.	Three correctly referenced resources.	Two correctly referenced resources.	One correctly referenced resource.

Total	/45

Assessment Criteria		
Grade	**Description**	**Mark Range**
Outstanding (O)	The student has an extensive knowledge and understanding of the content and can readily apply this knowledge. In addition, the student has achieved a very high level of competence in the processes and skills and can apply these skills to new situations.	**79.5-100**
High (H)	The student has a thorough knowledge and understanding of the content and a high level of competence in the processes and skills. In addition, the student is able to apply this knowledge and these skills to most situations.	**69.5-79**
Sound (S)	The student has a sound knowledge and understanding of the content and has achieved a good level of competence in the processes and skills.	**49.5-69**
Basic (B)	The student has a basic knowledge and understanding of the content and has achieved a basic level of competence in the processes and skills.	**19.5-49**
Limited (L)	The student has an elementary knowledge and understanding in a few areas of the content and still requires further work to achieve competence in the processes and skills.	**0-19**

Satisfactory completion of courses

A course has been satisfactorily completed when the student has:

- Followed the course developed/endorsed by the NSW Educational Standards Authority (NESA)
- Applied himself/herself with diligence and sustained effort to the set tasks and experiences provided in the course.
- Achieved some or all of the course outcomes