

Learning Experience

LE Title: Real Science & the movies	Authors: Mattie Sagaas, Kirsten Benson
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LEARNING CONTEXT

Purpose or Focus of Experience

Movie viewers often get their understanding of history, science and life from the movies. This lesson helps them become more discerning viewers of media and its veracity. By researching in books, magazines, and the Internet they will determine if the movies, *Deep Impact*, *Armageddon*, *Twister*, *Volcano*, etc. use real science to tell their stories. Teacher shows portions of movies in the classroom.

CONNECTION TO STANDARDS

New York State Learning Standard for Mathematics, Science and Technology

Standard 2 – Information Systems

Information technology is used to retrieve, process, and communicate information and as a tool to enhance learning.

- 1) Use a range of equipment and software to integrate several forms of information in order to create good quality graphic and text-based presentations
- 2) Students will access needed information from electronic data bases and on-line telecommunication services.
- 3) Students will systematically obtain accurate and relevant information pertaining to a particular topic from a range of sources, including local and national media, libraries, museums, governmental agencies, industries and individuals.

Knowledge of the impacts and limitations of information systems is essential to its effective and ethical use.

- 1) Students understand the need to question the accuracy of information displayed on a computer because the results produced by a computer may be affected by incorrect data entry.

Standard 5

AASL Learning Standards/Library & Information Skills Learner Outcomes addressed in assessment:

Standard 1. Use of information and ideas

1.1 Efficient and ethical information-seeking behavior

1.4 Stimulating Learning Environment

ESSENTIAL QUESTION(S)

Is real science used in the movies. If yes, how does real science confirm the action. If no, what is the fake science, why was it used, and explain what is the real science.

CONTENT KNOWLEDGE: DECLARATIVE, PROCEDURAL

Declarative

1. Search web pages
2. Search on line data bases
3. Search OPAC in library and/or Mid York

Procedural

1. Google Search: *Deep Impact* (movie) real comets, - use this format for other movie titles
2. Peruse results list with a critical eye
3. Click on hits that appear to answer the search
4. Read the information. Scan where appropriate
5. Use Source Sheet to cite information source accurately. (Attached)

PROCEDURE

- 1) Teach students how select search terms that will give potential results that will be specific to their topic.
- 2) Look at URLS in the results list. Try **.edu**, **.gov**, **.org**, before a **.com**. Explain why. Look at the phrase in the first line(s) to see if it matches their search term.
- 3) Find a page that seems to have accurate and up-to-date information. Check for the last update and find the name of the author/web master.
- 4) Check online data bases, ie., *Ebsco*, *GaleNet*, *Electric Library* or newspapers to see if the author is an expert in his field. Find out if he/she is favorably quoted in print sources, has been published, teaches at a university or has other credentials that would deem him/her a reliable source.
- 5) Check resources for author in any published works in OPAC. Also check books for explanation of real science

TIME REQUIRED

TWO 80 minute periods

RESOURCES

www.geo.mtu.edu/volcanoes/ Michigan Technological University **Volcanoes** Page

www.usgs.gov United State Geological Survey

volcano.und.nodak.edu/ Volcano Information

www.noaa.gov/tornadoes.html National Oceanic and Atmospheric Administration
whyfiles.org/013tornado/ Tornado information

www.badastronomy.com/bad/movies/di2.html Astronomy information

A Google search will give many more

Lewis, John S. Mining the Sky: Untold Riches from the Asteroids, Comets, and Planets.

Reading, MA: Addison-Wesley Pub. Co., 1996.

North, John. Norton History of Astronomy and Cosmology. New York, NY: Norton. 1995.

Plait, Philip C. Bad Astronomy: Misconceptions and Misuses Revealed, from Astrology to the Moon Landing :."Hoax." New York: John Wiley & Sons, 2002

Vogt, Gregory. Deep Space Astronomy. Brookfield, CT: Twenty-First Century Books, 1999.

ASSESSMENT PLAN

Rubric

STUDENT WORK

Students work in pairs and design a poster. In an oral presentation they share what they learned with the class. They explain the way real and imaginary science was used to tell the story in their movie.

REFLECTION

Students really enjoyed this project and were anxious to share what they had learned. They indicated that they would not be so naive in the future when they watch movies, but also when they get information on the web. They learned that it is necessary to check your sources.

Name _____

Period _____

Source Sheet

(this is the information you will use to compose your Works Cited List)

Use **ONE** Sheet per Source

Topic: _____

Date: _____

Print Source (book, magazine, or newspaper)

Title of Book, Magazine or Newspaper _____

A. Title of article: (if from a magazine, newspaper or encyclopedia) _____

B. Author: _____

C. Editor: (if applicable) _____

D. Publisher: _____

E. Place of Publication: _____

F. Date of Publication: _____

G. Volume number: (if applicable) _____

H. Page numbers: _____

Online Print Source (*Ebsco, Electric Library, GaleNet, Proquest, Grolier's Encyclopedia, World Book Encyclopedia, etc.*)

A. Author: _____

B. Title of Article: _____

C. Title of Periodical: _____

D. Date of Publication: _____

E. Publication Medium (Online or CD-ROM): _____

F. Name of Source: (ie. GaleNet) _____

G. Publication date or date of access: _____

H. Web Site address: _____

Internet Source (use search engine to access, i.e., Google, Yahoo, AskJeeves, etc.)

A. Author or Originator of Web Site: _____

B. Title of Item: _____

C. Date of Item or download: _____

D. Web Site Address: _____