

The Fever of '57

EXPLORATION 1: Are scientific advances for all of mankind, or for the benefit of only the people or countries who develop them?

Disciplines: Social Studies, History, Science

Suggested Age: This exploration is appropriate for Grades 8 through College level, with varying levels of sophistication.

Background: In the film, we witness a global sense of awe when Sputnik beeped overhead in the night sky. People were excited about this great scientific achievement for mankind. Man had entered a new age, the "Space Age" -- and for a fleeting moment, we were united by a common sense of possibility. Within a few days, awe turned to fear and uncertainty. It dawned on America that another country had beaten us into space and clearly had superior technology that was capable of sending a nuclear bomb to America. We had no way to defend ourselves and we became terrified. It's interesting to note that while the US and Soviets were working in secret on their Space programs, the International Geophysical Year was underway (1957-1958) and represented a great collaboration and sharing of scientific discoveries by the International scientific community for the betterment of mankind. These two events will give students an opportunity to compare science used for political and defense advantage, and science used by the global community for the advancement of mankind.

Exploration 1 Activity for Students:

Have students select one of two tracks, and then split into their respective groups:

Secret Science Group – Conduct research and compile a list of scientific advances made in secret for the benefit of an individual, company or country. What advantages are there to secret science? Is secret science ever revealed, and does that ultimately benefit mankind? What is reverse-engineering?

Open Science Group – Explore scientific advances made by and for the global community. What are the advantages of sharing scientific efforts and information? What is the response of governments and political interests when they receive reports from the global scientific community? What are the advantages of this type of collaboration, sharing and reporting? Does open science ever get censored, and is that right?

Related Media:

- The Fever of '57 (DVD)
- Filmmaker David Hoffman on Why Sputnik was a Big Story
 - www.thefeverof57.com/coolvideos
- BBC Space Race (Episode 2 Sputnik)
 - www.youtube.com/watch?v=ZF2H4q33oDg

Student Handouts and Helpers:

- Exploration 1 Student Activity Sheet with
- Online Homework Helper for Exploration 1 at www.thefeverof57.com

Related National Council of Social Studies Standards:

1. **Standard XIII Science, Technology and Society** (Social studies programs should include experiences for the study of relationships among science, technology and society)
2. **Standard IX Global Connections** (Social studies programs should include experiences that provide for the study of global connections and interdependence)

Additional Questions for Classroom Inquiry and Discussion:

1. Why, in the atmosphere of the Cold War, was it unlikely that technology such as Sputnik would be shared by the superpowers?
2. If technology such as this were to be shared today, where would this take place (Through the United Nations? Through the Internet?)
3. What might the next big technological/military breakthrough be that is on the same level as Sputnik?
4. How is Science affected by Politics?
5. If nuclear technology had been shared between the United States and the Soviet Union during the Cold War era would there still have been a Cold War?

Online Homework Helper for Exploration 1

The links below are available and hot-linked for students from the website www.thefeverof57.com under “Homework Helper”

Secret Science Links

The Atomic Heritage Foundation – Maintains a vast resource of primary and secondary documents
http://www.mphpa.org/index.php?option=com_content&task=view&id=45&Itemid=61

Including first-hand accounts and memories

http://www.mphpa.org/index.php?option=com_content&task=view&id=197&Itemid=144

Openheimer reflects on creation of nuclear bomb

<http://www.youtube.com/watch?v=pdATuDKYlgA>

Scienceline article: Science in Secret

<http://scienceline.org/2007/01/04/bio-anderson-privatefunding/>

Popular Science Magazine Online: The Top-Secret Warplanes of Area 51 with photo gallery

<http://www.popsci.com/popsci/aviationspace/95e16f096bd8d010vgnvcm1000004eecbccdrerd.html>

Open Science Links

International Geophysical Year

<http://www.nas.edu/history/igy>

eJournal USA, May 2007 Issue

Sharing Science: Open Partnerships

<http://usinfo.state.gov/journals/itgic/1006/ijge/ijge1006.htm>

National Renewable Energy Laboratory

<http://www.nrel.gov/>

Apollo Project for 21st Century

http://www.apolloalliance.org/about_the_alliance/

MARS Express

http://www.esa.int/SPECIALS/Mars_Express/SEMVO95V9ED_0.html

Exploration 1

Student Activity Sheet

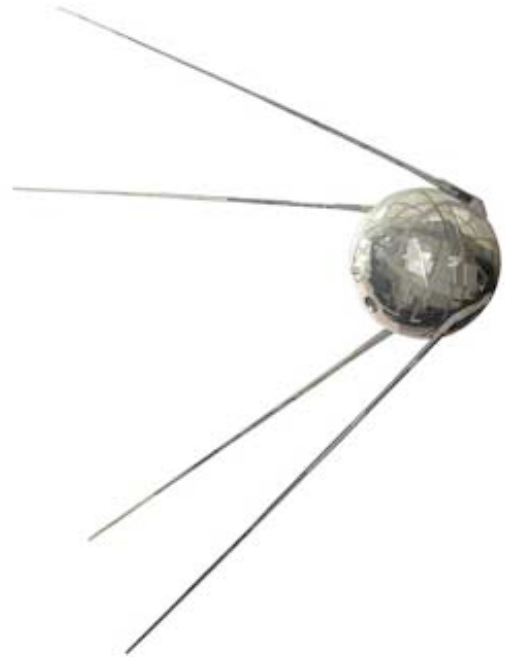
The Fever of '57

Your Exploration

Should great scientific advances such as Sputnik be for all of mankind, or for the benefit of only the people or countries who develop them?

Background

In the film, we witness a global sense of awe when Sputnik beeped overhead in the night sky. People were excited about this great scientific achievement for mankind. Man had entered a new age, the "Space Age" -- and for a fleeting moment, we were united by a common sense of possibility. Within a few days, awe turned to fear and uncertainty. It dawned on America that another country had beaten us into space and clearly had superior technology that was capable of sending a nuclear bomb to America. We had no way to defend ourselves and we became terrified. It's interesting to note that while the US and Soviets were working in secret on their Space programs, the International Geophysical Year was underway (1957-1958) and represented a great collaboration and sharing of scientific discoveries by the International scientific community for the betterment of mankind. These simultaneous events provide an opportunity to compare science used for political and defense advantage, and science used by the global community for the advancement of mankind.



Here's What to Do

Split into two groups and conduct research using the Homework Helper and other sources that you discover to answer some or all of the questions below. Write down your findings and share them with your classmates to arrive at your group's conclusions. Put a line in the middle of the blackboard and have each group write down their findings. Debate the differences and look for the similarities.

Secret Science Group – Conduct research and compile a list of scientific advances made in secret for the benefit of an individual, company or country. What advantages are there to secret science? Is secret science ever revealed, and does that ultimately benefit mankind? What is reverse-engineering?

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Visit The Fever of '57 Homework Helper for videos and links to help you with Exploration 1.

www.thefeverof57.com