



STEM Committee  
Michigan Crossroads Council

Name:

Supernova Activity Topic: Science  
**Movie "Science": Misconceptions,  
Misunderstandings, and Mistakes**

Troop:

Date:

## Supernova Activity Topic: Science

If you are fascinated by how things work and you want to help contribute to a better planet Earth, the Supernova activity topic choices for science give you a hands-on chance to:

- Reduce your environmental impact on Earth.
- Explore the wonders of space technology.
- See why carbonation and candy create an explosive experiment.

Choose any *one* of these activities and discover how it drives your imagination, your curiosity, and your fascination with science.

### Movie "Science": Misconceptions, Misunderstandings, and Mistakes

This activity can be done individually or in a group. There are many popular movies and television shows with plots that involve space travel in the near or distant future. Your task in this activity is to watch one such production and identify scientific or technological advances that appear to be possible and those that appear to be impossible and explain.

#### Part 1: Research

1. View a movie or television show involving space, space travel, or life in space. In the movie or show, identify two instances of scientific "principles" or technological "advances" that violate currently accepted scientific principles or misrepresent currently available technology. Discuss the following with your mentor:

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- A. The scientific principle that is violated and how. Describe the technology that is misrepresented and how.

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- B. Two potentially plausible technological or scientific advances in your chosen movie—show and explain how these could potentially come to be in the future. Discuss the hurdles that would have to be overcome in order to develop those advances.

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- C. The scientifically based reasoning that leads you to believe scientists, engineers, mathematicians, and technology specialists can overcome these hurdles.

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## Part 2: Report

Create a report that is addressed to the producers of your chosen movie or show, from the perspective of a scientist hired as a consultant on the production. Include suggestions for the producers to make the movie more scientifically or technologically accurate, realistic, and plausible.

[illegible]

Supernova Mentor: \_\_\_\_\_ Date: \_\_\_\_\_

## Resources

Jeanne Cavelos. *The Science of Star Wars: An Astrophysicist's Independent Examination of Space Travel, Aliens, Planets, Robots as Portrayed in the Star Wars Films and Books*. St. Martin's Griffin, 2000.

Michio Kaku. *Physics of the Impossible: A Scientific Exploration Into the World of Phasers, Force Fields, Teleportation, and Time Travel*. Anchor, 2009.

Lawrence M. Krauss. *The Physics of Star Trek*. Basic Books, 2007.

Tom Rogers. *Insultingly Stupid Movie Physics: Hollywood's Best Mistakes, Goofs and Flat-Out Destructions of the Basic Laws of the Universe*. Sourcebooks Hysteria, 2007.