

Real Science Fiction: Writing a Short Story That Is Scientifically Accurate

Creative Writing Assignment Sheet

Introduction

Short stories, scripts, and novels based on science—often referred to as science fiction—can help readers imagine how science and technology will continue to change the world. When student authors know science and let the story grow out of it naturally, the result is a story that sparks the imagination without crossing over into the world of fantasy where anything is possible and the laws of science are ignored. With some careful research and a good measure of imagination, creative writers can help their readers see the benefits and dangers of science as they imagine themselves in a situation in which science and the technology that comes from scientific inquiry solve old problems and create new ones.

Directions

Your assignment is to write a short story of between 1,000 and 1,500 words that uses scientific principles to advance the plot. You should base your story on careful research so that the characters, setting, conflict, and plot resolution are all scientifically feasible and consistent.

Write your story in first or third person based on a realistic situation in which science is used to define the characters and resolve the conflict. The plot may grow out of natural phenomena like climate change, pandemics, genetic research, or nuclear power.

Pre-writing

1. Review the list of suggested topics brainstormed by the class or those on the list distributed by your teacher. Check any that look interesting to you.
2. Do some preliminary research on several of the topics to see what aspects of the scientific basis of the ideas may become elements in your story. Look for interesting geological, biological, chemical, astrophysical, botanical, oceanographic, meteorological, genetic, or medical aspects of your story idea that would establish a setting, generate conflicts in the plot, and help define characters.
3. Narrow the focus of your research to one topic, and test drive it with some free writing. Begin with a character or group of characters facing some type of conflict that is consistent with the scientific phenomena that you have studied. Use the situation/conflict/crisis/resolution plot structure to create the narrative.
4. If your free writing generates a good storyline and some interesting characters, begin embellishing the story with scientific details to give it texture and authenticity.
5. Read the story aloud to test it for a smooth narrative “flow” and fill any gaps in the narrative.
6. Keep going, and soon you will have a first draft to try out on a preliminary audience (your teacher and/or classmates).

Suggested Topics for Short Stories Based on Science

1. In 2007, a team of scientists from the Center for Disease Control flies to Cameroon to investigate a strange disease that threatens to develop into a pandemic.
2. In 2011, a small town high school student wins a free trip on the Galactic Blue, a suborbital

- spacecraft for wealthy tourists who want to experience weightlessness, see the earth's curvature, and enjoy the sensations of space travel.
3. In 2029, after watching his teenage son playing a video game, an astronaut proposes to the scientific community a novel way of protecting the earth from the Apophis asteroid's imminent and catastrophic penetration into the planet's atmosphere.
 4. In 2017, an average-looking girl about to turn sixteen begs her parents for the \$12,000 it costs for a face transplant.
 5. In 2010, a young couple goes to a reproductive clinic to decide what physical and personality traits they want their first baby to have once he or she is fully developed and ready for birth.
 6. A world famous marine biologist cannot figure out why sea lions are dying in record numbers on the Oregon coast.
 7. From the list at http://www.everything2.com/index.pl?node_id=1458576, choose an unusual natural phenomenon; and write a story to dramatize and explain it, using scientific principles.
 8. The President of the United States secretly calls together a blue-ribbon team of scientists and engineers to counter China's decision to field an army of cyborgs for "national security purposes."
 9. A high school science fair attracts national attention when one of the students demonstrates what appears to be a "smart pill" that seems to temporarily double the IQ of anyone who takes it.
 10. The mayor of a small town in the mid-west gives the national media a tour of his town where almost everything is run on plant or animal waste.
 11. On the 125th anniversary of *Science* magazine, the editors have developed a list of 125 questions that scientists are currently unable to answer. Go to the magazine's web site on the Internet at <http://www.sciencemag.org/sciext/125th/>, choose a question that intrigues you, and write a short story in which the characters grapple with and/or solve the mystery.
 12. A young scientist is asked to help a secret agency of the U.S. government to respond to a bioterrorism threat on a major American city.
 13. A high school student interested in science as a career attends the World Life Sciences Forum BioVision in Lyon, France, with her father.
 14. A group of high school students tour the new Heifer International Headquarters building in Little Rock, Arkansas, where one of them comes away inspired to become an environmental scientist and another is determined to solve the problem of world hunger.
 15. Go to <http://www.sff.net/people/julia.west/CALLIHOO/dtbb/sfideas.htm>, the Random Science Fiction Story Ideas page, and choose some of the story elements that do not contradict science. Use these to write your own original story.
 16. Go to <http://www.technovelgy.com/>, and choose one of the forms of technology that science fiction writers wrote about that were later actually invented and used. Write a story about how this invention helped a person or group in a practical way.
 17. Pretend that you are a lab assistant for a famous scientist, and describe what it was like to be present when he or she made a world-changing discovery. Base your story on historic research.
 18. You are a scientist studying changes on the polar ice caps. Narrate a typical day at a research facility in the Arctic or Antarctic.
 19. A high school student whose mother teaches at a major research university where work is being done on several top secret Defense Department contracts notices a shifty looking character lurking around one of the science buildings.
 20. A high school physical science teacher takes his geology students on a field trip to Hot

- Springs, Arkansas, where these would-be rock hounds learn a lesson in thermal hydrology.
- 21. A trip to the space camp in Huntsville, Alabama, inspires a 15-year-old to become an astronaut.
 - 22. A group of high school students observe the “Gurdon Lights” and theorize in their science class about possible causes of this strange phenomenon.