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Curriculum Units by Fellows of the National Initiative
2016 Volume VI: Making Sense of Evolution

Genetic Engineering and the Potential Effects on Evolution

Guide for Curriculum Unit 16.06.02, published September 2016

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Imagine a world without disease; no cancer, no zika virus, no malaria parasite. Just a decade ago, there was not a way to effectively eradicate these and other harmful diseases from the human population, until recently when some new technologies were developed. These same advances can be applied to agriculture to help crops grow in drought plagued areas and to enrich food to make it more nutritious. Now there are new technologies called CRISPR-Cas9 and gene-drive that are so powerful that they can potentially force a species into extinction and may allow parents to choose their children's genes. There are many ethical questions about using this new technology and we as a society must decide if the risks are worth the rewards and how it will affect evolution on this planet. Students in this unit will explore the ethical considerations of GMOs, "designer babies" and genetically engineering mosquitoes through readings, a Socratic Seminar and an argumentative paper. This unit is geared towards 8th grade students and can be adapted for high school. This unit aligns with the NGSS and Common Core standards.

(Developed for Science, grade 8; recommended for Life Science/Biology, grades 9-12)

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