SCIENCE EDUCATION NEEDS AN UPDATE

Most states had their current K-12 science standards in place by 2001, so several of the advances in science and technology that made this update necessary have already occurred in the classroom. But this update is necessary to ensure that students are prepared for a future in which the United States must compete globally. Thekas show that the United States is not preparing students with the skills they need to succeed in the 21st century. For example, the United States ranked 14th in science among 24 nations surveyed in the 2007 International Technology and Science Assessment Study. And fewer than half of American students graduate from high school ready for college. The National Research Council's America's Education Gaps: Why We Lose by Comparing Nations' Ranks and How We Gain by Comparing Nations' Gaps recommends a science curriculum that emphasizes understanding the process of science. But standards in the United States do not reflect these recommendations. The new standards must be used to reorient science instruction to a more active, inquiry-based approach that promotes the critical thinking skills needed to be successful in the 21st century.

How can U.S. students receive a high-quality science education if states' standards are stuck in the 1990s?

1. **Text Messaging becomes more popular with "predictive" typing.
2. **DVDs change home entertainment with digital video storage.
3. **NASA finds the first successful Mars rover.
4. **Toyota unveils Prius, the first hybrid in the market.
5. **Virtual reality analysis makes video games more popular.
6. **Endemic measles are eliminated from the U.S.
7. **Apple releases the iPod.
8. **Augmented reality uses the first robotic device operated by nerve signals.
9. **Human genome project is complete.
10. **French doctors perform the first successful face transplant.
11. **Pluto is reclassified as a dwarf planet.
12. **Hubble space telescope observes first planet outside our solar system.
13. **The first synthetic genome for a bacterial pathogen.
14. **GPS "watch" with developability.
15. **CNN discovers Higgs boson.
16. **Six flags America's biggest wooden roller coaster in the world at 72 mph.

Want to get a closer look at high-quality science standards? Learn more here: NextEraScience.org

To continue the progress of developing a new set of standards, we're asking you to take a part in our effort as we work with experts from across the country to develop the Next Generation Science Standards (NGS), a set of education benchmarks released in April 2013, establishing what K-12 students need to know and be able to do.

References:
- American Association for the Advancement of Science. Science for All Americans.
- Science: A Journal for Students. NextEraScience.org