

The Daily STEM

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STEM in the News

Have you ever wondered what happens to plastic items after you throw them in the trash? Michael Burkart, a chemical biologist, and his team created a new plastic that breaks down when bacteria eat it. If you think of plastic molecules as long chains of elements (like carbon and hydrogen), it helps if you can design them in a way that bacteria can break them apart. They created their new plastics from compounds found in algae. That made



Day 0 Day 29 (1 month) Day 182 (6 months) Day 370 (1 year) Day 533 (1.46 years)

it easier for bacteria and microbes to break it apart. But don't worry, the plastic won't fall apart when you're using it. It has to remain in a wet compost in order to break down. What types of items would be good to make from this kind of plastic? Learn more: bit.ly/41T5Vx9

STEM Challenge

If it's spring where you are, you know that flowers are starting to bloom.

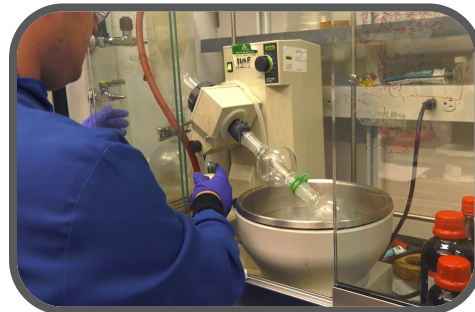
Did you know there are different types of flowers? **Annuals** must be planted again every year, while **Perennials** regrow each year. Try brightening your world (or someone else's world) with some flowers:

- 1) put some flower bulbs in a pot and give as a gift
- 2) turn pinecones into flowers (like these bit.ly/3JEifqE)
- 3) research wildflowers native to your area, and plant some seeds near a walking path or in your yard



STEM Career: Chemical Biologist

Did you ever think about how everything from the plastics we use to the medicines we take are invented? A **Chemical Biologist** uses knowledge of how chemicals are combined to make substances useful in living creatures. It's an example of a way that subjects work together to make things better. Some Chemical Biologists do research in labs, but others do much of their research in nature. Many are involved in creating new medicines, like cancer fighting drugs or antibiotics. One of the first uses of chemical biology was in 1828, when Friedrich Wöhler used chemical processes to make



urea, a biologic compound used for fertilizer. To be a Chemical Biologist, you need to study plenty of chemistry and biology in school. Learn how to safely work with microscopes and chemicals in a lab. It's also helpful to study computer science or coding, as many researchers simulate and analyze compounds using computers. If this sounds like a career you'd be interested in, learn more: **watch** bit.ly/3XF1PWS & bit.ly/4iQHxbS or **read an interview with a chemical biologist** bit.ly/3FNLuJr

The Puzzle

Tallow is a fat from animals like cows, sheep, and goats. It can be used for cooking, soaps, and candles. Suppose that the leftover tallow from burning 10 candles can be used to make one new candle. How many extra candles could you make if you burned 1000 candles?

Decode the answer using Semaphore flags:



Mystery Photos

Can you identify the mystery items under the Microscope?

Decode the answers using Semaphore flags:

