



Curiosity Guide #506

Bioplastics

Accompanies Curious Crew, Season 5, Episode 6 (#506)

Edible Spoons

Investigation #2

Description

Have you ever thought about eating your silverware? Yum!

Materials

- Edible Spoons https://www.amazon.com/gp/offer-listing/B074LWQ662/ref=dp_olp_new_mbc?ie=UTF8&condition=new
- Ceramic mug
- Hot drink

Procedure

- 1) Fill a ceramic mug with a hot drink.
- 2) Stir the drink with the special spoon.
- 3) Tap the spoon on the edge of the cup.
- 4) Ask a friend what she thinks the spoon is made out of.
- 5) Take a bite out of the spoon.
- 6) Now ask your friend if she would like to change her prediction about the spoon's material.

My Results

Explanation

People throw away six million tons of plastic knives, forks, and spoons every year. This disposable plastic silverware fills up our landfills and doesn't break down well. As a way to fight that pollution, scientists are experimenting with bioplastic silverware. The bioplastic spoons are naturally made with small seeded grasses called millet, rice, wheat, and unseeded grasses called millet. The earth-friendly spoons have no preservatives. These spoons last three years before going bad, are fairly rigid, and can effectively stir hot drinks. A bioplastic spoon will degrade in about five days if left outdoors. Edible silverware was developed in India as a substitute for conventional plastics that do not degrade well in landfills and as a way to reduce the amount of plastics that get thrown away. At first glance the edible silverware looks as though it is made out of wood. Amazingly, the silverware has been designed to come in different flavors, including sugar, ginger-cinnamon, garlic, celery, cumin, black-pepper, mint, carrot. Edible silverware gets baked when it is made, just like a bread would be.

Increase your knowledge: Plastics come in two categories. First, there is conventional plastic, which is largely made from oil. The problem is, when oil-based plastics are thrown away into a landfill, they don't really break down. The other kind of plastic engineers are developing are bioplastics. Bioplastics are made from plants, so they break down in a landfill, are renewable, and won't hurt the environment. Different sugars and starches in plants like corn, potatoes, and even banana peels are the primary ingredients in bioplastics. Natural ingredients from bioplastics could really help our environment!

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