

Chapter 1 : Discovering the Secrets of Long-Term Love - Scientific American

Sandra Markle is the author of more than two hundred children's books, which have won numerous awards, including Boston Globe-Horn Book Honor Book, IRA/CBC Children's Choice, NSTA/CBC Outstanding Trade Books for Children, NCTE Orbis Pictus Recommended, and ALA Notable Books for Children.

Woo first mixed it up on Jan. In this photo, the starter was close to its peak. Oct 28, by: Marcus Woo Those first bubbles were almost a revelation. A couple of days before, I had mixed together flour and water into a paste. But now pockets of gas percolated through that seemingly inert glob. This gloppy mess, exuding a whiff of vinegar, was my nascent sourdough starter. When mature, it would be a pungent brew of yeasts and bacteria, a complex ecosystem that would hopefully yield delicious loaves of sourdough bread. As the microbes eat the sugars in the flour, they exhale carbon dioxide, producing the bubbles that turn a flat, dense loaf into something light and fluffy. A starter breathes life into bread. If the loaf is the body, the starter is the soul. Within is something magical and mysterious. Passed down through generations, starters carry tradition, history and nostalgia. People give them names like Lazarus and Clint Yeastwood. They deliver layers of flavors and aromas, the products of countless microorganisms — some whose identities and activities remain undiscovered. When I made my starter last January, I unknowingly joined a growing trend. More home bakers are now eating and baking sourdough, popularized by professionals like Chad Robertson of Tartine in San Francisco. He and others have also been experimenting with new types of grains, milling their own heirloom and ancient varieties for flavor and nutrition. Support comes from According to sourdough lovers, its advantages are three-fold. The bread lasts longer, thanks to microbes that produce acids and antibiotic compounds, preventing spoilage. Evidence also suggests sourdough is better for digestion. And, most importantly, it tastes better. It has been around for millennia, since the first bakers — perhaps in the Middle East — noticed that, after a couple of days, their gruel of grains and water started to bubble. Nearly all leavened bread in the world came from sourdough: Food scientists first isolated and developed it in the 19th century for its consistency and fast-rising times. Sourdough starters, though, vary widely. You can make and maintain one with only wheat flour and water. Others use ingredients like rye flour, milk, grapes or potatoes. While packaged, commercial yeast can sit in your cupboard for a couple of years, a sourdough starter is more like a pet or a high-maintenance houseplant. Properly maintained, a starter can live indefinitely, and some have purportedly persisted for centuries. He first got the starter from a sheep camp in Provo, Utah, which likely got it from Mormon settlers in the late s. Her mom made sourdough pancakes every Sunday. Before then, the starter had been in the family for perhaps more than years. The family starter was one of the few things Liz Terhune packed in her car when she moved across country to Las Vegas. The starter likely originates from at least the late s, Terhune says. If you want a starter with a unique pedigree, you can buy it from places like Sourdough International , which has collected starters from bakers around the world, from Saudi Arabia to New Zealand. Each one, the company says, features its own distinct flavor. Lab experiments have revealed the basic biochemistry of sourdough, but no one has yet explored the diversity found in the real world. He and other researchers are soliciting home bakers to submit their starters for analysis. How does it affect the starter if you feed it milk instead of water? How does the feeding schedule influence the microbes? Do geography and climate matter? Or, whether the baker is a man or woman? Women, Dunn tells me, tend to have more bacteria called lactobacilli on their bodies. To see how individual differences manifest themselves in bread, the researchers plan a big bake-off next summer. They will get 20 bakers together, sequence their DNA as well as the microbes on their bodies , and have them make starters and bake bread, then compare the results. The goal is to see whether different people with different genetics and different microbes on their bodies have any effect on the starters. Ultimately, Dunn says, the researchers want to identify which microorganisms make the best-tasting loaf. First, the researchers need samples to study. Meanwhile, I still get a kick out of seeing those bubbles. Replenishing fresh flour and water turns my starter back into a bland mush. But a few hours later, the bubbles return, the mass puffs up in volume, the aromas waft, and the starter springs back to life. It really is like magic, only better. To see more, visit [http:](http://)

Chapter 2 : Food Science Secrets – Discover the Science Behind Food

*Discovering Science Secrets [Sandra Markle] on www.nxgvision.com *FREE* shipping on qualifying offers. Combines experiments and true or false questions to introduce science, allowing readers to make glue and a gas-powered boat.*

Flour and water on the left; just starter on the right. Researchers are soliciting home bakers to submit their starters for DNA analysis. The goal is to assemble a census of sourdough biodiversity and analyze variations in pH levels, enzyme production and other aspects of its biochemistry. Woo first mixed it up on Jan. In this photo, the starter was close to its peak. A couple of days before, I had mixed together flour and water into a paste. But now pockets of gas percolated through that seemingly inert glob. This gloppy mess, exuding a whiff of vinegar, was my nascent sourdough starter. When mature, it would be a pungent brew of yeasts and bacteria, a complex ecosystem that would hopefully yield delicious loaves of sourdough bread. As the microbes eat the sugars in the flour, they exhale carbon dioxide, producing the bubbles that turn a flat, dense loaf into something light and fluffy. A starter breathes life into bread. If the loaf is the body, the starter is the soul. Within is something magical and mysterious. Passed down through generations, starters carry tradition, history and nostalgia. People give them names like Lazarus and Clint Yeastwood. They deliver layers of flavors and aromas, the products of countless microorganisms – some whose identities and activities remain undiscovered. When I made my starter last January, I unknowingly joined a growing trend. More home bakers are now eating and baking sourdough, popularized by professionals like Chad Robertson of Tartine in San Francisco. He and others have also been experimenting with new types of grains, milling their own heirloom and ancient varieties for flavor and nutrition. According to sourdough lovers, its advantages are three-fold. The bread lasts longer, thanks to microbes that produce acids and antibiotic compounds, preventing spoilage. Evidence also suggests sourdough is better for digestion. And, most importantly, it tastes better. It has been around for millennia, since the first bakers – perhaps in the Middle East – noticed that, after a couple of days, their gruel of grains and water started to bubble. Nearly all leavened bread in the world came from sourdough: Food scientists first isolated and developed it in the 19th century for its consistency and fast-rising times. Sourdough starters, though, vary widely. You can make and maintain one with only wheat flour and water. Others use ingredients like rye flour, milk, grapes or potatoes. While packaged, commercial yeast can sit in your cupboard for a couple of years, a sourdough starter is more like a pet or a high-maintenance houseplant. Properly maintained, a starter can live indefinitely, and some have purportedly persisted for centuries. He first got the starter from a sheep camp in Provo, Utah, which likely got it from Mormon settlers in the late s. Her mom made sourdough pancakes every Sunday. Before then, the starter had been in the family for perhaps more than years. The family starter was one of the few things Liz Terhune packed in her car when she moved across country to Las Vegas. The starter likely originates from at least the late s, Terhune says. If you want a starter with a unique pedigree, you can buy it from places like Sourdough International , which has collected starters from bakers around the world, from Saudi Arabia to New Zealand. Each one, the company says, features its own distinct flavor. Lab experiments have revealed the basic biochemistry of sourdough, but no one has yet explored the diversity found in the real world. He and other researchers are soliciting home bakers to submit their starters for analysis. How does it affect the starter if you feed it milk instead of water? How does the feeding schedule influence the microbes? Do geography and climate matter? Or, whether the baker is a man or woman? Women, Dunn tells me, tend to have more bacteria called lactobacilli on their bodies. To see how individual differences manifest themselves in bread, the researchers plan a big bake-off next summer. They will get 20 bakers together, sequence their DNA as well as the microbes on their bodies , and have them make starters and bake bread, then compare the results. The goal is to see whether different people with different genetics and different microbes on their bodies have any effect on the starters. Ultimately, Dunn says, the researchers want to identify which microorganisms make the best-tasting loaf. First, the researchers need samples to study. Meanwhile, I still get a kick out of seeing those bubbles. Replenishing fresh flour and water turns my starter back into a bland mush. But a few hours later, the bubbles return, the mass puffs up in volume, the aromas waft, and the starter springs back to life. It really is like magic,

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Chapter 3 : Discovering Science Secrets () by Sandra Markle

Discovering The Science Secrets Of Sourdough (You Can Help): The Salt Many bakers treat their sourdough starters like a family heirloom. Some starters date back decades, even centuries. Now.

In an ad for Kia cars, a married couple sleeps side by side and we are given a glimpse into their dreams. While the woman dreams of being swept away by a long-haired hunk on a horse, her husband is speeding down a racetrack in a car while Lima and a horde of bikini-clad women cheer him on. Although the dream eventually ends with the couple meeting exchanging weak smiles and going for a drive in the Kia this is family television after all, the peak moments are clearly the fantasies. The deadened couple compensates for lack of love with wild dreams and a Kia car purchase. Is this the inevitable end point of a long-term relationship? The findings may also reveal the secrets to keeping intense love alive. When they first collected the data, the researchers were dumbfounded by the large percentage of people who claimed to still be intensely in love. The couples answered the question "how in love are you with your partner? What are the secrets of intense love over the long term? Not surprisingly, the list was topped by physically affectionate behaviors such as hugging and kissing. We then feel closer to our partner and long-term bonding ensues. Decades of psychological research shows that social connection is a fundamental human need and essential for our physical and mental well-being. Affection is such an important element of love that the couples in the study who did not report any physical affection also reported a loveless relationship. The researchers found that frequency of sex was also strongly associated with intensity in love, but that, interestingly, it was not always a requirement: Certain couples, for example, reported low marital satisfaction due, presumably, to some of the common challenges couples face e. However, if their levels of physical affection remained high, the couple still reported intense love. When people see each other every day, they can sometimes take each other for granted and stop noticing the characteristics they used to appreciate about their mate. However, a little awareness and gratitude may go a long way in countering this tendency. When we get to know someone well, we naturally learn about both their strengths and their weaknesses but it is really up to us whether we choose to focus one side or the other. By focusing on what we appreciate and admire in our partner and being grateful for the value and gifts that our partner brings into our lives, we cannot but think positively and may feel more intense love as a consequence. Love may also be cultivated in shared experiences. Couples intensely in love reported participating in novel, engaging, and challenging activities together. Some of the greatest moments of intimacy in a relationship come from the simple joys of cooking or exercising together, exchanging intellectual ideas over common readings, learning a new and challenging skill like skiing, sharing spirituality by attending church or meditating, and going on travel adventures. That togetherness may create a shared thread of life experience and memories. Can a relationship lead to happiness? Yet the survey suggests that taking care of your own happiness may also be important. Personal happiness was associated with intensity of love, especially for women. Of course, being intensely in love may also be contributing to the happiness observed. No matter what message Kia ads and marketing specialists may try to send you, long-term love is here to stay and has absolutely nothing to do with material goods. Surveys such as this one give us a far more accurate picture of how to maintain the flames of love. Are you a scientist who specializes in neuroscience, cognitive science, or psychology? And have you read a recent peer-reviewed paper that you would like to write about? He can be reached at garethideas AT gmail. If yes, then please nominate us for a Shorty Award in Science: Her research expertise is well-being, social connectedness, and meditation-based interventions. She is currently assessing the impact of a yoga-based treatments on veterans returning from Iraq and Afghanistan with post-traumatic stress disorder.

Chapter 4 : Secrets of the Earth : Programs : Discovery Science : Discovery Press Web

Discovering The Science Secrets Of Sourdough (You Can Help) The loaf on the left was made with a starter; the sourdough loaf on the right wasn't. Researchers are soliciting home bakers to submit their starters for DNA analysis.

Chapter 5 : Discovering Science Secrets by Sandra Markle

Get this from a library! Discovering science secrets. [Sandra Markle; June Otani] -- Change milk into glue. Make a candle go out. Print pictures with water. Learn fascinating facts about plants and animals.

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Chapter 8 : Science: Discovering the Ocean's Secrets | Ocean Today

Many bakers treat their sourdough starters like a family heirloom. Some starters date back decades, even centuries. Now researchers want to analyze your starters to unlock their flavor secrets.

Chapter 9 : Discovering The Science Secrets Of Sourdough

Transcript. Imagine going to work everyday in the ocean, to study the plants and animals that call it home. Scientists from Canada, Mexico, and the United States are benefitting from marine protected areas as living laboratories to make better decisions about our oceans.