

Read the articles below then answer the questions that follow.

What is the Feast of the Seven Fishes?

A. Christmas time can be a symphony of sensory delight: the sweetness of a candy cane, the smell of pine, the chime of bells, the glow of string lights—and for some, the sizzle of fish in the kitchen. The Italian American tradition of the “Feast of the Seven Fishes” has appeared in movies, and recently, in the hit show *The Bear*. But ask celebrants what that tradition entails, and you’ll get many different answers. Where did this feast really originate, and how did it become popularised in the U.S.? Why fish, and why are there seven? Here’s the real story of the Feast of the Seven Fishes.

B. The Feast of the Seven Fishes is a dear tradition to many Italian Americans who enjoy (at least) seven different seafood dishes on Christmas Eve. You might find labour-intensive preparations of baccalà (salted cod fish), calamari fritti with lemon and marinara sauce, stuffed escarole, fried smelt, scungilli (conch) in a chilled seafood salad, and stuffed clams oreganata. You won’t hear about “festa dei sette pesci” in Italy though, says Michael Di Giovine, professor of anthropology at West Chester University of Pennsylvania and author of *Edible Identities*. In Italy, the holiday is simply “la vigilia,” “the eve” of Christmas. And fish is really only eaten in Southern Italy on the holiday. This is because the feast has evolved to be uniquely Italian American over the past hundred years.

C. At the turn of the 19th century, Italian immigration exploded, numbering 300,000 in the 1880s, jumping to 2 million by 1900. As Italian immigrants moved away from extended family and their children grew and married Americans, the Feast of the Seven Fishes evolved from la vigilia into something much more extravagant. Di Giovine says the feast was a way to differentiate themselves, a marker of identity. It also became a tradition to strengthen bonds with both family present and ancestors past. A vast majority of Italian immigrants to the United States were from rural Southern Italy at the turn of the 19th century. When the country was unified in 1861, they had new freedoms from a weakened aristocracy. They came to America because there were jobs (from building railroads to skyscrapers) and mobility. Friends and family found success and brought their loved ones to the U.S.

D. Some say fish was chosen for the Feast because it was plentiful for impoverished families in Southern Italy. Others say the sea represented Italian Americans’ connection between their old and new homes. Though many families no longer associate the feast with Catholic tradition, there’s likely a religious explanation for the seafood. The first Christians used fish iconography to denote membership. In one biblical tale, Jesus procures a large catch of fish, and promises his disciples an abundance of followers when he commands them to be “fishers of men.” To this day, the Pope wears the “ring of the fisherman.”

E. Seven is also a holy figure: it’s the number of sacraments and deadly sins. In the Bible, Jesus miraculously feeds a crowd of people with seven loaves and fishes. “Consumed in multiples of seven, then, fish may be a deeply ingrained symbol of sanctifying and revivifying a plentiful group, and of promising continued abundance for posterity,” Di Giovine writes in a 2010 paper on the subject.

F. Italian culture is very regional, with small communities specialising in certain foods. North and Central Italy didn't eat fish on Christmas Eve. The rush of immigrants at the turn of the 19th century were from the South, which has Spanish influences on the language and food. Fish, olive oil, vinegar, beans, tomatoes and fried foods like pizza frita (pizza pockets) and zeppoles (donuts) are foods from the Italian South (notably not pasta).

G. In the 1900s, anti-Italian sentiment was high and Italians from different regions were lumped together by outsiders. Eventually, traditions also became melded together to produce the current Americanized image of pan-Italian food that ranges from pizza to cannoli, which are both regional in Italy.

Answer the questions below by choosing the letter of the correct answer.

Which paragraph mentions...

 D **1** the choice of fish for the Feast of the Seven Fishes is attributed to its abundance for poor families in Southern Italy?

 F **2** the tradition of eating fish on Christmas Eve is specific to Southern Italy, influenced by Spanish culture?

 A **3** an Italian American Christmas tradition rich in sensory experiences and diverse interpretations, has its origins and reasons explored in the article.

 E **4** a number that holds religious significance, symbolising the sacraments and deadly sins?

 C **5** the transformation into a lavish tradition among Italian Americans as a symbol of identity and familial connection, influenced by the large influx of Southern Italian immigrants?

 G **6** amidst widespread anti-Italian sentiment, Italian traditions from various regions merged in the U.S., leading to a blended, Americanized creation of a cuisine?

 B **7** a feast that is distinct from Italy's simpler Christmas Eve celebration and has uniquely evolved in America over the past century?

Don't risk your holiday plans: The basics still matter for COVID and flu

A. Yet another holiday season. Yet another round of highly contagious respiratory viruses threatening to ruin our festive plans. Cases of respiratory syncytial virus (RSV) are up, flu is widely circulating, and COVID-19 is sending increasing numbers to the emergency room. Still, unlike several years ago when the novel coronavirus had everyone playing Scrooge and nixing holiday plans, experts say that's no longer necessary for most people. But it's still smart to take precautions to protect yourself, your guests, and your family.

B. "There are things we can do this winter to minimise sickness and disruption to maximise time with family. This is what the holidays are all about," says Katelyn Jetelina, an epidemiologist and scientific consultant to the United States Centers for Disease Control and Prevention and other institutions, who blogs as Your Local Epidemiologist.

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C. Half of Americans plan to take virus protection measures this holiday season, according to a survey by the nonprofit KFF (formerly called Kaiser Family Foundation). Some worry about their own chance of falling sick; others want to avoid spreading the disease to loved ones, since respiratory infections are so easily passed from an infected person's nose or mouth.

D. "It's definitely wise for everyone to take precautions, but certain populations—the elderly, young children, people who are immunocompromised—are more susceptible," says Jessica Tuan, an infectious diseases physician at the Yale School of Medicine. "If you will be in contact with these individuals, you want to be especially cautious." This year for the first time, vaccines are available for susceptible people for all three of these circulating respiratory diseases.

E. "Are they perfect to where you won't get infected? Possibly not, but they will prevent you from getting serious disease and that is the goal," says Jill Weatherhead, an infectious diseases physician at Baylor College of Medicine in Houston. RSV has been spreading for decades; prior to the pandemic five times as many infants died from this as from the flu, and many people over 65 were hospitalised. Yet the disease often flew under the radar, until it sparked an early and especially virulent season in the U.S. in 2022.

F. The U.S. Food and Drug Administration has now approved vaccines against RSV in adults 60 and older and in pregnant women (to protect their newborns). A monoclonal antibody is also available for all newborns and certain other babies up to age two. Flu vaccines have been available for years, of course, but not enough people have gotten theirs this year, according to the CDC; as of early December only 39 percent of Americans have been vaccinated.

G. Meanwhile, just 16 percent have opted for the latest COVID-19 vaccine, including only a third of people in the high-risk older adults population. The good news: It's not too late to get any of these inoculations to protect yourself during the holidays, Weatherhead says; you can get two or even all three shots at the same time. During COVID, high-tech interventions like negative pressure rooms, HEPA air filters, and N95 masks overshadowed rudimentary advice like hand washing, but it's still smart to focus on the basics, Tuan says.

Answer the questions below by choosing the letter of the correct answer.

Which paragraph mentions...

 D **8** an infectious diseases physician that advises extra caution for people who are easily infected?

 B **9** an advice that says adopting measures to minimise illness and disruption this winter, emphasising the importance of maximising family time during the holidays?

 E **10** an infectious diseases physician states that while vaccines may not guarantee total immunity, they significantly reduce the risk of severe illness?

 F **11** despite the long availability of flu vaccines, data shows that only a percentage have received their flu shots?

A 12 a suggestion that says unlike previous years, cancelling celebrations isn't required for most, though taking precautions remains important?

G 13 a reassurance that it's not too late to get vaccinated for the holidays, with the option to receive two or even all three vaccines simultaneously?

C 14 half of Americans intend to implement virus protection measures during the holidays?

Meet the fungus that can transform into a carnivorous predator

A. In most circumstances, *A. oligospora* is saprotrophic, meaning it consumes decaying organic matter like dead leaves. However, scientists have found that nutritional deprivation can cause the fungi to undergo molecular changes, enabling it to become carnivorous, preying on unsuspecting worm species called nematodes.

B. Fungi cannot pursue its prey in the hot-on-the-heels manner that other predators do, and a study published last month outlined how the fungi have evolved a trickier, more sinister way to predate. When *A. oligospora* senses a nearby nematode, it relies on pheromones to lure nematodes to its mycelium, the underground network of microscopic threads that make up a fungus.

C. According to research done by scientist Ping Hsueh from Taiwan's Institute of Molecular Biology, Academia Sinica, *A. oligospora* "likely evolved the means to use olfactory mimicry to attract its nematode prey through the olfactory neurons in nematodes and related species." This means that the fungus secretes food cues and pheromones to seduce the worm in question.

D. Nematodes produce small molecules called ascarosides, which regulate their behaviour and development. Fungi like *A. oligospora* are thought to "eavesdrop" and detect the signals made by these ascarosides, which create a molecular pattern that fungi can recognize. As the trap is thought to be a very energy consuming process, *A. oligospora* only forms it when prey are near. They're not the only fungus that changes from harmless decomposer to predator. The oyster mushroom produces chemicals to paralyse its nematode prey within a few minutes of contact. Hsueh states "on a molecular level, we want to understand the mechanisms that enable the fungi to do this. More specifically, what genes and proteins the fungi make to sense the nematodes and give them the ability to capture them."

E. "During the first stage," explains Hsueh, "there is an increase in protein translation because the trap needs a lot of protein and DNA. During the second stage, the proteins are expressed, meaning they are secreted outside of the cell. The traps are very sticky and function as a glue. During the last stage, enzymes in the fungi will help digest the nematode."

F. The fungi's mimicry and predation techniques may receive pushback from the primitive worm, however. Hsueh describes the ability of nematode evolution to keep up with the fungi's predation as an "evolutionary arms race." According to a research paper by the National Library of Medicine, "to minimise the risk of being eaten, prey have often evolved specific behaviours and strategies such as camouflage, avoidance, mimicry, and tonic immobility to increase their chance of survival. In turn, predators also evolved enhanced predatory strategies to secure food sufficient to survive and reproduce, giving rise to an evolutionary arms race between predator and prey."

G. The question that remains is whether or not these worms can evolve and adapt to their new fungal predator. How will such a predator-prey coevolution pan out? The answer, however, is still at large. Hsueh hopes to understand the mechanism as well as changes in the molecular level that could lead to a behaviour change in the nematode, and—if it's lucky—its escape.

Answer the questions below by choosing the letter of the correct answer.

Which paragraph mentions...

 E **15** proteins are secreted outside the cell, creating sticky, glue-like traps; and finally, enzymes within the fungus digest the ensnared nematode?

 A **16** something that usually thrives on decomposing organic substances, but under conditions of nutritional scarcity?

 F **17** the development of strategies like camouflage, avoidance, mimicry, and immobility to evade predation, while predators evolve advanced hunting techniques?

 C **18** *A. oligospora* may have developed the ability to imitate olfactory signals to entice its prey?

 D **19** the interception that creates recognisable molecular patterns, prompting *A. oligospora* to form energy-intensive traps only when prey is nearby?

 G **20** unlike typical predators, fungi employ a more cunning method for hunting, as highlighted in a recent study?

 B **21** the future of this predator-prey coevolution remains uncertain?

You can learn to control your dreams. Here's how.

A. If you've ever felt like you were in a movie and watching a movie at the same time while you were dreaming, you have probably experienced lucid dreaming. But you may not have known that's what it was called—or how it can benefit your health and well-being.

B. Simply put, a lucid dream is one in which the person is aware that they're dreaming and can either exert some control over the dream, or passively observe its unfolding while maintaining awareness that it's a dream. This gives the dreamer an opportunity to potentially influence their dream life—perhaps by consciously interrupting a nighttime narrative to rescript a new outcome—which can be especially helpful for reducing the frequency of nightmares in those who have them, according to research in a 2023 issue of *Encephale*.

C. Research has also found that engaging in lucid dreaming can help people reduce the severity of their insomnia, along with symptoms of anxiety. “Some people who lucid dream don’t want to alter the dream—they want to explore the dream and see what it offers them,” notes Antonio Zadra, a professor of psychology at the University of Montreal and co-author of *When Brains Dream*. “It’s a way of exploring your own mind and opening opportunities to engage with different parts of your psyche.”

D. There’s also entertainment value in lucid dreaming, says Benjamin Baird, a cognitive neuroscientist and a research professor at the University of Texas at Austin. “It’s like having your own form of virtual reality.” While awareness of dream states dates back centuries, it wasn’t until 1913 that the Dutch psychiatrist Frederik Van Eeden coined the term “lucid dream,” based on his own experiences. In the 1970s and 1980s, researchers, including Stanford psychophysicist Stephen LaBerge, proved that lucid dreaming was a phenomenon during REM sleep, when dreamers were asked to move their eyes in distinct patterns when they became lucid during their dreams.

E. Meanwhile, practitioners of Tibetan Buddhism have long believed that people can train to be lucid while dreaming through a practice called dream yoga. “All dream yoga is lucid dreaming,” explains Michael Sheehy, a Tibetan Buddhism scholar and director of scholarship at the Contemplative Sciences Center at the University of Virginia in Charlottesville. “The difference is, in dream yoga you’re intentionally performing contemplative techniques while you’re in the dream. You are aware of what you’re doing while you’re dreaming and you’re doing things you can’t normally do when you’re awake.”

F. These intentional actions include conjuring unusual objects to appear in your dream, transforming the dream’s environment or location, or transforming one item into another, he explains. After the dream, “you may experience cognitive flexibility, realising how easily you can change your thoughts and mindset or how you perceive your circumstances. And you can imagine new possibilities, perspectives, and situational outcomes,” Sheehy says.

G. The neurobiological underpinnings of lucid dreaming aren’t well understood, says Ken Paller, a neuroscientist at Northwestern University in Evanston, Illinois. But preliminary research suggests there’s greater activity in the brain’s prefrontal cortex—which regulates executive functions, such as thinking and problem-solving, and emotions—and the parietal cortex, which plays a role in processing and integrating sensory information and attention.

Answer the questions below by choosing the letter of the correct answer.

Which paragraph mentions...

E 22 a technique that allows awareness and actions beyond waking capabilities?

B 23 a state where the individual knows they are dreaming and can either manipulate the dream or watch it unfold while aware it's a dream?

G 24 the neurobiological basis of lucid dreaming is not comprehended well-enough?

C 25 a remark that says some lucid dreamers prefer to explore their dreams unaltered, seeing it as a means to delve into their minds and interact with various aspects of their psyche?

F 26 a practice that can enhance cognitive flexibility, fostering an ability to shift thoughts, perceptions, and imagine new possibilities?

D 27 using distinct eye movements from dreamers as proof of lucidity?

G 28 a phenomenon that can positively impact you although you might not have recognized it by its name?



Whatever happened to the zero waste movement?

A. It was a pleasant summer day along the waters off the coast of Guanacaste, Costa Rica when marine biologist Christine Figgener captured the heartrending video that sparked the movement to ban plastic straws. While collecting data on olive ridley sea turtles, she and her colleagues would routinely lift the creatures up onto their boat for examination. Upon inspection of a sea turtle on August 10, 2015, they found that it had something peculiar lodged in its nose. At first, Figgener and the other scientists onboard speculated that the object could be a barnacle or a tube worm. But as the full length of the item emerged, the turtle wiggling with discomfort, they quickly realised it wasn't something organic—it was a plastic straw.

B. “It was mind boggling,” Figgener recalls. And while the straw so deeply lodged into the creature's nostril was distressing, she notes that plastics permeating their way into marine life was nothing new. “As researchers, we have always known that plastic is a problem.” Plastic production underwent an explosive increase from two million tons produced in 1950 to over 290 million tons in 2023, and by the late 1950s, there were already numerous scientific records of marine turtles ingesting plastic bags. But it wasn't until Figgener's video, and other viral images of marine life entangled in plastic proliferated across the internet that plastic use, and straws in particular, caused a public outcry.

C. Throughout the 2010s, anti-straw and zero waste trends took the internet by storm, and the infamous “trash jar” was born. Going plastic free was simultaneously a trendy aesthetic, a marketing tagline for businesses, and a political movement—more than twenty cities around the country placed strict regulations around plastic straws.

D. In 2015, Kathryn Kellogg, author of 101 Ways To Go Zero Waste, began her zero waste journey to save some money and live a healthier lifestyle. The idea of keeping a trash jar compelled her as a fun challenge. To hold herself accountable, she began sharing her journey online. But throughout her two years of keeping a trash jar, Kellogg and the zero waste community started noticing stark flaws within the movement. A perfectly zero waste lifestyle began to feel time consuming and impractical. Many felt dispirited for not being able to meet the standards of living a

“zero waste” lifestyle and noted that all this individual effort did little to stop the flood of new single-use plastics entering the waste stream every day.

E. “Living in San Francisco, so much was available package-free, but that doesn’t necessarily translate to many other areas across the country,” says Kellogg. “And it’s impossible to be completely zero waste, because we don’t live in a society that is built that way.”

F. The movement also relied heavily on consumerism. For every jar that one could put their trash in, there was an aesthetically pleasing jar to purchase from a “Zero Waste” brand. For every step individuals could take toward zero waste, there was an item that “needed” to be bought in order to get them there. Rather than calling attention to working with what we already have, and simply buying less, it was still grounded in producing and shipping more “things.”

G. Figgener fears the public also became too focused on villainizing straws, rather than looking at plastic production itself as the problem. While plastic straws themselves are certainly a detriment to many species, they make up only 0.025 percent of the staggering eight million tons of plastic that flow into the ocean each year—which equates to about two garbage trucks’ worth of plastic entering the ocean every minute.

Answer the questions below by choosing the letter of the correct answer.

Which paragraph mentions...

 C **29** movements against plastic straws and in favour of zero waste gained significant traction online, leading to the popularisation of a term?

 E **30** a choice that is not replicated throughout the country, making the pursuit unfeasible in a society not structured to support such a lifestyle?

 F **31** how each step towards a zero waste lifestyle appeared to require purchasing specific items, emphasising the acquisition of new products over the use of what one already owns?

 A **32** that during their research they regularly hoisted these turtles onto their boat for detailed inspection?

 G **33** the concern that the public's attention has been overly concentrated on one thing, rather than addressing the broader issue?

 D **34** the incident was astonishing, noting that the issue of plastics affecting marine life was already well-known among researchers?

 B **35** considerable difficulties in sustaining an entirely waste-free existence, discovering it to be time-intensive and frequently unfeasible?

Why Yule log has become a Christmas favourite

A. Christmas pudding maybe Britain's best-known festive dessert, but in France, the *bûche de Noël* — or yule log — reigns supreme, with skilled *pâtissiers* and home bakers creating an array of different versions, from the classic to the *outré*. "It's a very traditional French thing," says baker Frank Barron (known as @cakeboyparis on Instagram), who moved from California to the French capital in 2012. "There seems to be no question that there will be some type of *bûche* on the table as part of dessert, after the main festive feast is over."

B. As a dessert, the *bûche de Noël* has a relatively short history, but its namesake dates back much further. The original yule log was just that — a large, heavy piece of wood that was burned during the festive season. It was lit on Christmas Eve and rekindled each day until Twelfth Night was reached. This custom was common across much of Europe for hundreds of years — a throwback to the pre-Christian fire festivals celebrating the winter solstice — and much superstition was attached to the practice. In some parts of Britain, for example, it was said to be bad luck if a squinting person or flat-footed woman entered the room in which it was burning. The most widely held belief, however, was that if a portion of the charred yule log was kept in the house during the coming year it would protect the property against lightning strikes.

C. In Scotland, meanwhile, it was considered good luck to carve the face of the *Cailleach* (the Gaelic goddess of the winter months) onto a log before setting fire to it on Christmas Eve, with the whole family gathered around to watch it burn. "This ritual held the significance of bidding farewell to the cold, dark and hardships of the past year, while welcoming new beginnings," says Coinneach MacLeod, who includes a recipe for yule log in his new book, *The Hebridean Baker at Home*.

D. By the 18th century, the popularity of burning a log at Christmas had dwindled — perhaps because of the impracticality of dragging a colossal piece of wood into your home — but Parisian pastry chefs ensured the tradition was not entirely forgotten by reimagining the log in cake form. Pierre Lacam is widely credited with publishing the first recipe for the *bûche de Noël*, in *Le Mémorial Historique et Géographique de la Pâtisserie*, a weighty tome published in 1890, containing snippets of history, along with 1,600 recipes for regional cakes and pastries. Lacam includes nothing on the origins of the edible log, but his recipe is essentially rounds of *génoise* — a rich, airy sponge cake — sandwiched together with coffee- or chocolate-flavoured buttercream to create a log shape. Small 'branches' were cut from additional pieces of *génoise* and attached using buttercream. The ensemble was then piped with yet more buttercream, using a fluted nozzle to create the effect of bark.

E. Today, although a chocolate Swiss roll is frequently used to create a *bûche*, in the 19th century a vanilla sponge was more common. This emphasised the contrast between the darker 'bark' exterior and the paler 'wooden' interior. The woodland effect could be further enhanced with the addition of 'moss' in the form of finely chopped pistachios and a few meringue mushrooms for good measure.

F. In a later publication, Lacam revealed he'd discovered more about the *bûche*'s origins, writing that it was invented by Antoine Charabot at La Maison Quillet in 1879. Earlier in the century this Parisian *pâtisserie* had created French buttercream by whisking egg yolks with sugar syrup and butter, a version of which Lacam used in his own recipe. By 1886, the *bûche* was all the rage in the French capital, particularly among the city's growing bourgeoisie. Michael Krondl, author of *Sweet Invention: A History of Dessert* (2010) has observed that middle-class Parisians used extravagant

desserts to illustrate their sophisticated taste and refinement — previously qualities mainly attributed to the aristocracy.

G. The Paris of the Belle Époque, the period between 1870 and 1914, was considered the epitome of elegant living, artistic prowess and decadence, and the bourgeoisie dictated what was in vogue around the world. It's hardly surprising, then, that the penchant for elaborate desserts spread across Europe and further afield. Accordingly, the Germans had the Bismarckeiche, a largely forgotten version whose name translates as 'Bismarck oak', a reference to Germany's first chancellor; Italy its tonchetto di Natale; and Vietnam — formerly a French colony — its bánh khúc cây giáng sinh ('Christmas tree log cake'), all of which are variations on the classic French dessert.

Answer the questions below by choosing the letter of the correct answer.

Which paragraph mentions...

 C **36** a different tradition prevailed where it was seen as auspicious to carve the likeness of this higher being?

 F **37** the actual origin of the dessert that was originally created by someone with his own variation?

 A **38** a person who claims that this particular food will grace the table every after the main meal?

 E **39** that to enhance the appearance of this alternative, they chop nuts?

 D **40** that due to the infeasibility of bringing a massive piece of wood into one's home, tradition has waned?

 B **41** the prevailing belief that a house will be safe by retaining a fragment of the burnt yule log within the house for the duration of the next year?

 G **42** that fondness for intricate desserts spread due to the pinnacle of refined living, artistic excellence, and extravagance?