EXTRA READING TEXTS

~FOR L5 STUDENTS~

You are given **a set of 10 extension reading texts** on different topics to help expand your English skills, strengthen your reading comprehension, and explore new ideas. **One text** from each set is especially useful for **your in-class writing exam**. Reading them will challenge you, provide helpful background knowledge, and give you inspiration and ideas for your papers.

Enjoy reading and make the most of it!

In-Class-Writing I (Argumentative Essays)

1. When Everybody's Working At Home And The Magic Is Gone

The bank, the biggest in the U.S. by assets, has been slowly bringing some of its trading and sales staff back to the office after putting in place safety measures such as temperature checks and distanced desks. JPMorgan says those who prefer to work at home can still do so.
During a recent meeting with analysts, Dimon even said productivity has fallen at some parts of the bank, especially on Mondays and Fridays.

"There's a huge value to working together, in terms of collaboration and creativity and training the younger people," Dimon told MSNBC recently.

Coming back to once-deserted offices would come as a big change for millions of employees who have grown used to working from home, replacing long commutes on subways or crowded highways with Zoom calls in their pajama bottoms.

But Nicholas Bloom, professor of economics at Stanford University, says there may be a benefit to bringing people back to work.

A decade ago, Bloom co-authored a widely discussed study looking at a travel company in China that allowed many of its employees to work from home.
They found that employees who stayed home were actually 13% more productive than those who worked in the office — but Bloom adds a big note of caution.

https://www.npr.org/2020/09/24/916211900/as-more-americans-work-from-home-some-ceos-reopen-offices-to-find-that-missing-s

2. Fast-er food: A productivity surge at U.S. restaurants

Decades before McDonald's, there was White Castle. Historians credit the hamburger chain with creating the modern fast-food industry as we know it.

The legend goes that White Castle founder Walter "Walt" Anderson started making hamburgers in the early to mid-1910s after he grew frustrated with how long it took to cook meatballs. So one day, Anderson smashed a meatball with a spatula, and, boom, he had a hamburger patty that he could cook much faster. If that's true, Anderson's embrace of hamburgers was really part of a quest for greater productivity — to cook and sell more meat sandwiches in less time.

That origin story may or may not be bogus, but after founding White Castle in 1921, Anderson and his co-founder, Billy Ingram, pioneered many of the hallmarks of the fast-food industry, including helping to make hamburgers a national staple, standardizing practices across their chain restaurants and bringing an assembly-line mindset to food production. White Castle took many pains to be productive, like making its burgers square to maximize the number of burgers that could fit on a grill, and limiting its menu to only a few items, which streamlined the process of preparing, cooking and serving food.
So, yeah, from the very beginning, fast-food restaurants were designed to be the epitome of productivity. Nearly everything about them was geared toward serving customers as quickly and efficiently as possible.

However, according to a new study, fast-food and other restaurants stopped seeing productivity gains between 1992 and 2019. While the productivity of the rest of the economy "steadily grew," it remained "flat" for

restaurants, the authors write. Fast-food chains and other restaurants struggled to find innovative ways to serve customers at a faster clip.

The study doesn't dig into why restaurants saw a slowdown in productivity growth. Maybe after so many years of innovations, fast-food restaurants hit a ceiling and had trouble finding more efficiencies. They apparently failed to take advantage of big technological changes, like the mass adoption of the internet and smartphones, to serve customers faster. Or maybe fast-food chains did streamline their business processes with the help of new technologies, but at the same time, maybe there were productivity-sucking counterforces. For example, maybe consumers started wanting a greater variety of food and fast-food companies diversified their menus, making food preparation more complicated and slower. Whatever the reason, this study finds, fast-food and other restaurants stopped seeing significant productivity growth for nearly 30 years.

But according to this new study, that dramatically changed during the COVID-19 pandemic. Fast-food and other restaurants saw "a startling surge" in productivity — and they've remained more productive since.

What caused this "curious surge" in productivity? That's today in the ***Planet Money*** newsletter.

The name of the study is "The Curious Surge of Productivity in U.S. Restaurants," and it's by economists Austan Goolsbee, Chad Syverson, Rebecca Goldgof and Joe Tatarka.

When the pandemic hit in 2020, the economists found, the restaurant industry saw a brief but steep drop in productivity. There were tons of disruptions to business during the era of lockdowns and social distancing, and that hurt the ability of restaurants to serve customers.
Pretty soon after, however, something remarkable started happening: Restaurants awoke from their decades-long productivity slumber and started innovating to serve customers faster.

The economists found that after 2020, the restaurant industry saw a surge in productivity "to a level some 15% higher than the pre-COVID steady state that had prevailed for decades. This surge has persisted even as overall economic conditions seemed to return to normal." Put another way, the average restaurant saw 15% more sales per employee.
Why did this happen? The economists run through various explanations for the productivity surge and then knock down most of them.

Is this possibly just a weird, COVID-related fluke in the data? Nope. They found a persistent change across multiple datasets.

Is this possibly because many restaurants died during the pandemic, and this helped give a boost to the restaurants that survived? In particular, did surviving restaurants find cost savings and efficiencies — in econospeak, "economies of scale" — because they now had less competition and a potentially larger pool of customers? No, the economists found. The data doesn't support that hypothesis.

To find the answer to why restaurants got more productive, the economists turned to "microdata" from smartphones. This data offers systematic information on things like how much time and money customers spend at restaurants. This data, they say, is more comprehensive for fast-food (aka "limited service") restaurants, so they focused on that sector of the market. Their data covers visits to "over 100,000 restaurants across the U.S." from January 2019 to December 2022, representing about $24 billion in sales.

https://www.npr.org/sections/planet-money/2025/03/18/g-s1-53844/faster-food-productivity-surge-us-restaurants

3. It started with friends at home. Now Dungeons & Dragons is in its stadium era

For years after it was invented in the 1970s, Dungeons & Dragons remained a niche game that people — stereotypically, nerdy boys — played at home with their friends.

But in the past decade or so, D&D has emerged as a popular form of spectator entertainment, with comedians, actors and podcasters playing the game for other people to watch. "Actual play," as it's known, has attracted millions of viewers online and has even spilled out into the real world, with D&D shows playing in movie theaters, touring globally and selling out stadiums.

Dungeons & Dragons turns 50 this year. Here's what the game has meant to you
One of the most iconic examples of this phenomenon came earlier this year when the show Dimension 20 sold out Madison Square Garden in New York. Roughly 20,000 fans showed up to watch seven comedians perform D&D, with a few rock show flourishes — like gouts of butane fire around the stage to simulate the wrath of the dragon Kalvaxis, the big villain of the night.

"Kalvaxis breathes in," actor and comedian Brennan Lee Mulligan narrated: "'Trifle with me at your own peril. BWAAAAAH!'"

But the performers are still just playing an analog tabletop game: rolling dice, checking rulebooks and using their imaginations. And the makers of D&D themselves say that actual play and its diverse audiences are helping to fuel a broader golden age of D&D right now, including the kind played by friends at home.

Brennan Lee Mulligan, who was introduced to Dungeons & Dragons in 1998, owes his exposure to his mom. Many parents were wary of D&D after it was swept up in the "Satanic Panic" of the '80s and '90s, when anti-occult campaigns like "Bothered About Dungeons & Dragons" alleged it drew kids to devil worship and suicide.

But Mulligan's mom Elaine Lee, a comic book writer, playwright and actress, was familiar with D&D from her creative circles. She hadn't played it herself, but she saw that her 10-year-old son Mulligan "was a nerdy, nerdy kid" and thought he'd like it.

https://www.npr.org/2025/08/07/nx-s1-5489813/dungeons-dragons-dimension-20-critical-role-madison-square-garden-stadium

4. Authors petition publishers to curtail their use of AI

A group of more than 70 authors including Dennis Lehane, Gregory Maguire and Lauren Groff released an open letter on Friday about the use of AI on the literary website Lit Hub. It asked publishing houses to promise "they will never release books that were created by machines."

Addressed to the "big five" U.S. publishers — Penguin, Random House, HarperCollins, Simon & Schuster, Hachette Book Group, and Macmillan — as well as "other publishers of America," the letter elicited more than 1,100 signatures on its accompanying petition in less than 24 hours. Among the well-known signatories after the letter's release are Jodi Picoult, Olivie Blake and Paul Tremblay.

The letter contains a list of direct requests to publishers concerning a wide array of ways in which AI may already — or could soon be — used in publishing. It asks them to refrain from publishing books written using AI tools built on copyrighted content without authors' consent or compensation, to refrain from replacing publishing house employees wholly or partially with AI tools, and to only hire human audiobook narrators — among other requests.

"The writing that AI produces feels cheap because it is cheap. It feels simple because it is simple to produce. That is the whole point," the letter states. "AI is an enormously powerful tool, here to stay, with the capacity for real societal benefits—but the replacement of art and artists isn't one of them."

Until now, authors have mostly expressed their displeasure with AI's negative impacts on their work by launching lawsuits against AI companies rather than addressing publishing houses directly. Ta-Nehisi Coates, Michael Chabon, Junot Díaz and the comedian Sarah Silverman are among the biggest names involved in ongoing copyright infringement cases against AI players.

Some of these cases are already starting to render rulings: Earlier this week, federal judges presiding over two such cases ruled in favor of defendants Anthropic AI and Meta, potentially giving AI companies the legal right under the fair use doctrine to train their large language models on copyrighted works — as long as they obtain copies of those works legally.

Young adult fiction author Rioghnach Robinson, who goes by the pen name Riley Redgate, and is one of the organizers of the letter and petition, said these rulings only make the need for safeguards feel more urgent.

"With courts allowing AI access to copyrighted texts as fair use, the next -- and possibly last -- line of defense has to be the publishers" she said. "Without publishers pledging not to generate internally competitive titles, nothing's stopping publishing houses from AI-generating their authors out of existence. We're hopeful that publishers will act to protect authors and industry workers from, specifically, the competitive and labor-related threats of AI."

The authors said the "existential threat" of AI isn't just about copyright infringement. Copycat books that appear to have been written by AI and are attached to real authors who didn't write them have proliferated on Amazon and other platforms in recent years.

The rise of AI audio production within publishing is another big threat addressed in the letter. Many authors make extra money narrating their own books. And the rise of machine narration and translation is an even greater concern for human voice actors and translators. For example, major audio books publisher Audible recently announced a partnership with publishers to expand AI narration and translation offerings.

"Audible believes that AI represents a momentous opportunity to expand the availability of audiobooks with the vision of offering customers every book in every language, alongside our continued investments in premium original content," Audible CEO Bob Carrigan said as part of the announcement. "We'll be able to bring more stories to life — helping creators reach new audiences while ensuring listeners worldwide can access extraordinary books that might otherwise never reach their ears."

Robinson acknowledged the steps publishers have taken to help protect writers
"Many individual contracts now have AI opt-out clauses in an attempt to keep books out of AI training datasets, which is great," Robinson noted. But she said publishers should be doing much more to defend their writers against the onslaught of AI. "There are major concerns that publishers might create generative AI titles of their own that could swallow the publishing landscape, or replace editorial workers with AI tools, or the like," she said.

https://www.npr.org/2025/06/28/nx-s1-5449166/authors-publishers-ai-letter

5. Spinal Tap is back. Director Rob Reiner says they're still dialed up to 11

In 1984, the groundbreaking mockumentary ***This Is Spinal Tap*** lampooned heavy metal bands and rock documentaries — and introduced audiences to a new film genre.
"What we were doing was not only satirizing heavy metal, we were satirizing the documentary form and the way in which documentaries were presented," director Rob Reiner says.

Spinal Tap, the fictional band at the center of the film, was known for its excesses both on- and off-screen. The bass player stuffed his pants with a foil-wrapped zucchini, while the lead guitarists boasted of amps that "go to 11." Reiner both directed the film and played a documentary director in the movie.
Now, in the sequel ***Spinal Tap II: The End Continues***, the band returns for a reunion concert. As in the original film, the band is portrayed by Michael McKean, Christopher Guest and Harry Shearer. Everyone's older in the sequel, but make no mistake: None of the characters has changed.

"The beauty of these guys, the members of Spinal Tap, is that in all those years, from their 20s, 30s up now until their 70s, they have grown neither emotionally or musically," Reiner says. "There's no growth. They basically are in a state of arrested development for, like, 50 years. And the only growth that there is, is maybe skin [tags] from getting older."
Reiner says revisiting the project came easily, especially since it meant working with the same collaborators: "We're still able to — as Chris Guest calls it — 'schnadle' with each other back and forth."

"After 15 years of not working together, we came back and started looking at this and seeing if we could come up with an idea, and we started schnadling right away," he says. "It was like falling right back in with friends that you hadn't talked to in a long time. It's like jazz musicians, you just fall in and do what you do."

This Is Spinal Tap helped pave the way for TV mockumentaries like ***The Office*** and ***Parks and Recreation,*** and for films like ***Best in Show*** and ***A Mighty Wind.*** Reiner's other directing credits include ***Stand By Me, The Princess Bride, When Harry Met Sally*** and ***A Few Good Men.*** He also starred in the 1970s sitcom, ***All in the Family.***

https://www.npr.org/2025/09/09/nx-s1-5527051/spinal-tap-rob-reiner

In-Class-Writing II (Compare and Contrast Essays)

1. Hundreds of South Koreans arrested in a U.S. immigration raid are being sent home

SEOUL, South Korea — U.S. immigration authorities are preparing to send more than 300 South Korean workers home on a chartered flight from Atlanta, a week after detaining them for allegedly working illegally, while constructing a South Korean-invested electric vehicle battery plant in Bryan County, Ga.

The sight of Immigration and Customs Enforcement (ICE) agents handcuffing and chaining the wrists, waists and ankles of skilled technicians shocked South Koreans.

South Korea charters plane for 300 workers detained by ICE at Georgia Hyundai plant

It also threatened to become an obstacle to South Korea's contribution to President Trump's plans to revive American manufacturing.

"This could significantly impact future direct investment in the U.S.," South Korean President Lee Jae-myung warned at a press conference, just over two weeks after a summit meeting with President Trump, in which the two pledged to step up economic cooperation.
Lawmaker Yoon Hu-duk put it more bluntly in a parliamentary hearing, saying: "The U.S. has encouraged investments in negotiations. And then it stabbed us in the back, to be frank."

https://www.npr.org/2025/09/11/nx-s1-5537811/south-koreans-arrested-immigration-us-raid-sent-home

2. Why self-employment is the future of work

We are so attached to the idea of getting and having a job that it is hard for us to grasp the scale and speed with which labour markets are changing. It is possible, indeed probable, that people entering the workforce today in the world's developed economies will spend half or more of their working lives not in steady jobs but being self-employed.

This is a social and economic transformation as significant as the expansion of tertiary education in the 1960s and, more recently, the shift to flexible retirement ages. The trend is discernible in several advanced economies, including the United States (where one should include "proprietors" in the figures, because otherwise the numbers look very low). But things are changing fastest in the UK. Not only do we have the highest proportion of self-employed people in the workforce since the Second World War—15 per cent, slightly higher than the US and considerably higher than Germany or France—it is also probable that during the life of the next parliament there will be more self-employed people than government employees.

The growth of self-employment in the UK since the recession has been remarkable. The government celebrates, with some justification, the fact that there are more people working in the UK than ever before. But 83 per cent of the new employment created since 2007 has been in people working for themselves. About half of that gain has been in people working part-time, with women accounting for a larger proportion of the gain than in previous periods. Historically, they have accounted for about 30 per cent of the self-employed, but they account for 60 per cent of the increase in self-employment since 2007.

Many of those who have become self-employed regard themselves as under-employed, because they are working for fewer hours than they would like. But the increase in self-employment is not simply an effect of the recession—levels of self-employment were rising beforehand, too. That said, the reasons for the shift to self-employment differ depending on the economic climate. In bad times, people who have been made redundant pick up whatever work they can get, whereas in good times they have the confidence to set up on their own. But the striking thing is that the growth in self-employment has been remarkably persistent. There are now some 40 per cent more people self-employed than in 2000, but only about 7 per cent more in jobs.

Why? Surprisingly there does not seem to be much comparable international research on this. There are bits and pieces, including an excellent study last month from Morgan Stanley, written by the economist Charles Goodhart. It suggested that the UK economy might well be 4 per cent larger than the published GDP per worker figures recorded. The explanation for the difference is that there has been a surge in the growth of the informal economy following the VAT increase to 20 per cent, with people doing much more work for cash rather than reporting it to the tax authorities. If true, that would explain a lot about what has been happening: why, for example, has consumption been so strong and why did the amount of notes and coin in circulation jump suddenly when VAT went up?

If we can miscount the economy by such a large percentage it is hardly surprising that it is tough to find answers to nebulous questions such as whether the shift to self-employment is voluntary or not. A survey last month for the Resolution Foundation think tank found that 72 per cent of people who had become self-employed in the past five years preferred their new status, while 28 per cent would rather have remained in a job. It might be that people are initially forced to become self-employed, but then find they rather like it once they have become used to it.

What we can do is to draw up a list of the various forces at work, even if it is impossible to weight their importance with any precision. Here are a dozen. Their sheer number shows why this trend is more pronounced in Britain than in many other countries, and why governments are struggling to respond.

One: increasing longevity. The ageing of our society, coupled with the improved health of older people and lower-than-expected pension returns, has certainly pushed more people to remain in the workforce beyond normal retirement age. While this would not necessarily lead to a rise in self-employment—there is no reason why such workers should not remain in employment, maybe on shorter hours—in practice it is often simpler for people to become self-employed. It gives freedom both to the worker and the employer and it

changes the nature of the relationship in ways that many older people prefer. It is easier to say no: to negotiate work on one's own terms rather than be tied in as an employee.

Two: the shift to services and in particular the changing balance of activities within the service industry. Demand for labour in growing service industries, such as the hospitality business, is particularly for flexible labour. The need to staff up to meet increased demand, or staff down if business is slack, is obviously much less predictable than in manufacturing, but it is also less predictable in growing service industries than in shrinking ones. For example, a hotel manager will have a general feeling for the likely trade on any one particular night, but will only really know how full his establishment is a couple of days beforehand. A bank manager, by contrast, knows how many tellers he needs on any particular day. The hotel trade, however, is growing, while bank branches are being shut.

It is quite possible to meet shifting demand for labour by offering so-called zero-hours contracts (where employers do not offer employees guaranteed hours), and of course that is happening. But if you operate a rota of self-employed people you arguably have even greater flexibility than you do when using zero-hours contracts.

Three: the squeeze on the public sector. Quite aside from the mathematical impact on the proportion of self-employed by the decline of people employed by the state, government agencies including the NHS need to get the work done, which will sometimes involve hiring the services of self-employed people.

Four: technology. Communication technologies ease the path to self-employment in a number of ways. Most obviously they enable people to work at home and communicate with other workers and while in theory homeworkers can be on payroll, in practice self-employment contracts usually work better. In other words, technology facilitates outsourcing. It also reduces the cost of entry into service businesses, because a new business can market itself globally from a laptop on the kitchen table. Comparable data is hard to find but it looks as though the UK has a higher proportion of teleworkers than any other country, at around 10 per cent of the total, with 20 per cent doing some part of their work on screen away from the office.

Less obviously, new technologies enable employers, or rather would-be employers, to manage a freelance workforce more effectively, contacting people automatically wherever they are, as and when they are needed.

Five: there are technical innovations, such as eBay, that offer easy entry for would-be entrepreneurial traders. The UK has the highest proportion of online sales of any large economy, at 13.5 per cent.

Six: the fashion for entrepreneurship. Political support for business creation is cross-party, pushed as much by Gordon Brown as by the coalition. It is, so to speak, the acceptable face of capitalism for people to form a business and to be successful at it, as opposed to being successful in a job and being rewarded with a bonus. This is reflected in the popularity of television programmes such as Dragon's Den and The Apprentice.

Seven: labour legislation. If a company can buy in a skill rather than have to increase its fixed costs by employing someone extra to do it, it has a powerful incentive to do so. Additional burdens on employers, such as paternity leave for fathers, further boost the trend to self-employment.

Eight: tax. Anyone self-employed, either as a sole trader or as the proprietor of an incorporated business, should pay tax just as an employee would. But quite aside from the greater scope for tax evasion—which, if those estimates noted in the Morgan Stanley paper are right, is considerable—there are practical advantages to self-employed status. These include the ability to leave funds in the business and borrow against them, and to withdraw income in the form of dividends rather than salary, thereby cutting national insurance contributions.

Nine: the growth of creative and cultural industries. It is natural and normal in these "new" industries for people to work for themselves. Indeed, there is really no secure employment. So as the balance of activity shifts towards this, it would be normal and natural for the balance between employment and self-

employment to shift too.

Ten: the celebrity culture. This is associated with the growth in the creative industries. We have created a huge demand for celebrities and there is a huge churn in their numbers. Large numbers of people, particularly the young, are moving in and out of this space, or providing services to would-be or established celebrities.

Eleven: the growing importance of craft skills. We have had a long period when crafts were in decline and the mass production society still rules. But as lower-waged countries have come into mass production, it has become clear that one of the competitive advantages of the UK is in craft production: top-end bikes and watches, for example. Instead of throwing away, you repair. Craft workers may be on payroll, but they are just as likely to be self-employed, whereas mass production workers are invariably employed.
These are not the only forces driving the shift to self-employment. Anyone thinking about it, or maybe setting up themselves, could doubtless add a few more. There may, for example, be an association with immigration and with inequality, though you have to be careful about which way round the relationship works. (For example, does the rise in self-employment lead to greater inequality, or does greater inequality create more opportunities for the self-employed? Maybe both.) But what is beyond dispute is that self-employment is rising, and that seems unlikely to reverse any time soon. That leads to two further questions: how far will this run? And what are the implications for policy?

To begin with the first question, it is at least conceivable that having doubled over the last 30 years the proportion of self-employed workers could double again over the next 30. By 2045, one-third of the workforce could be self-employed. A much higher proportion is likely to be self-employed at some stage in their career. If this is right, it will be a shift as big as the ending of the jobs for life culture a generation ago. Even if the growth tapers off at a quarter of the workforce, policy will have to adapt.

At present, the tax system and labour market legislation are both built around the jobs model, not the self-employment one. Something as simple as the minimum wage is based on the idea that someone is working for someone else and not for themselves. Concern about zero-hours contracts is based on the assumption that jobs should specify a number of elements, including the hours to be worked and the timing of payment for that work. Paradoxically, efforts to pin down the hours worked may actually further the shift to self-employment. A rota of employees would be replaced by a rota of the self-employed.
https://www.prospectmagazine.co.uk/essays/46352/why-self-employment-is-the-future-of-work

3. Scientists link hundreds of severe heat waves to fossil fuel producers' pollution

The 2021 heat dome in the Pacific Northwest that overwhelmed emergency rooms and left hundreds dead. The 2022 heat wave in India that devastated the wheat harvest. The deadly heat waves in France in 2003, and China in 2013.
A new study links these recent heat waves — and more than 200 others — to human-caused climate change, and the greenhouse gas pollution of major fossil fuel producers.
The new study, published Wednesday in the journal ***Nature***, found that 213 heat waves were substantially more likely and intense because of the activity of major fossil fuel producers, also called carbon majors. They include oil, coal and cement companies, as well as some countries.

https://www.npr.org/2025/09/11/nx-s1-5534484/oil-companies-heat-waves-climate

4. After 10 years of black hole science, Stephen Hawking is proven right

On Sept. 14, 2015, physicists attained the long-sought goal of detecting gravitational waves, the shockwaves spewed out by such cataclysmic events as the violent merger of two black holes.

This huge breakthrough quickly garnered three of the effort's key figures the physics Nobel Prize. In the 10 years since then, scientists have detected hundreds of black holes coming together, as well as other extreme cosmic events like neutron stars colliding and black holes merging with a neutron star.

Now, in the journal ***Physical Review Letters***, researchers say their ability to analyze gravitational waves has improved so much over the past decade that they were recently able to verify a key idea about the growth of black holes — one put forth by Stephen Hawking back in 1971.

There's a very famous statement in physics that Stephen Hawking worked out, which is that the area, the surface area, of black holes can never decrease," explains Maximiliano Isi, an astrophysicist with Columbia University and the Flatiron Institute.
And he says that's just what scientists observed after analyzing gravitational waves detected earlier this year. On Jan. 14, detectors registered gravitational waves that came from two colliding black holes about 1.3 billion light-years away.

These black holes had masses 30 to 40 times that of our sun, so their collision was very similar to the one that led to the first gravitational wave detection back in 2015. Since that time, however, the pair of giant detectors run by LIGO, in Louisiana and Washington state, have been repeatedly upgraded.

"Because the detectors are so much better today, we can record the signal so much more clearly," says Katerina Chatziioannou, a gravitational wave physicist at Caltech.
That allowed them to perform a new analysis showing that between the two of them, the initial black holes had a combined surface area of 240,000 square kilometers (roughly the size of Oregon). After they merged to form a single black hole, its area was about 400,000 square kilometers (roughly the size of California).

Hawking's theory says that the final area of the black hole has to be bigger than the sum of the two initial areas, says Chatziioannou, "and this is what we demonstrated observationally with that signal."

This kind of proof is just what Hawking hoped for a decade ago, when the first gravitational wave detection was announced. He actually reached out to one of the scientists involved in that effort to see if gravitational waves could be used to test this prediction, says Isi.
Back then, though, it just wasn't possible because there was too much noise in the data and the analytic techniques hadn't advanced enough.

Hawking died in 2018. "It's unfortunate that Hawking is not around anymore, but certainly this is a way in which his legacy lives on," says Isi.
"All of these ideas that people thought up in the '70s, thinking it was just idle speculation, now they are manifested in actual data," adds Isi. "We see these things happening almost exactly as predicted."

Albert Einstein, who predicted the existence of gravitational waves in 1916, thought that they'd never be detected. "If we told him that we are detecting gravitational waves from colliding black holes every other day, or every two or three days or so," says Isi, "I'm sure it would have been mind-blowing to him."

Overall, researchers have been surprised by how many merging black holes they have seen, says gravitational wave researcher Gabriela González with Louisiana State University.
"We have seen so many black hole mergers. We are learning so much about them that sometimes I feel tempted to call this 'black hole astronomy' rather than 'gravitational wave astronomy,'" she says.

She would have predicted that they'd see far more mergers between neutron stars, but they've only seen a couple of examples of that so far.
That could change, as researchers are already working on plans for new, even bigger gravitational wave detectors that would be 10 times more sensitive. "That's our dream," she says, adding that in another decade, these detectors could be under construction — perhaps even completed.
Assuming researchers get the funding, that is. The current LIGO observatory, which is funded by the National Science Foundation, is facing potential budget cuts, with the Trump administration proposing steep reductions in 2026.
https://www.npr.org/2025/09/11/nx-s1-5537131/ligo-10-years-black-holes-hawking-theory-confirmed

5. Male tarantulas are moving and wooing their way across Colorado

Each year, male brown tarantula trek across Colorado to look for ladies.
From mid-September to mid-October, they leave the safety of their burrows to go on journeys that will take interesting turns as they face rejection, predators and fatigue.

Cara Shillington, a biology professor at Eastern Michigan University, doesn't consider the trek a migration because "this is not a one-way movement from one location to a different location."

Greetings from Guhagar, India, where newly hatched turtles get some help into the sea.
Arachnid aficionados say although male tarantulas spend most of their lives in their underground burrows, they leave them to find female tarantulas once they reach sexual maturity.

"They get to this nice, reflective color on their exoskeleton. They'll look a lot prettier," said Chandler Peters, an entomology keeper at the Arizona-Sonora Desert Museum.
The females, who can live up to 30 years, never leave their burrows. And if the males snoop around too much under the earth, they could suddenly end up in another spider's burrow and become a meal, Shillington said.

https://www.npr.org/2025/09/11/nx-s1-5534462/tarantulas-colorado-mating-season