Ode to Happiness for Sunday July 11 2021

Clouds of the Carina Nebula

Image Credit & Copyright: John Ebersole

What forms lurk in the mists of the Carina Nebula? The dark ominous figures are actually molecular clouds, knots of molecular gas and dust so thick they have become opaque. In comparison, however, these clouds are typically much less dense than Earth's atmosphere.

Featured here is a detailed image of the core of the Carina Nebula, a part where both dark and colorful clouds of gas and dust are particularly prominent. The image was captured in mid-2016 from Siding Spring Observatory in Australia.

Although the nebula is predominantly composed of hydrogen gas -- here colored green, the image was assigned colors so that light emitted by trace amounts of sulfur and oxygen appear red and blue, respectively.

The entire Carina Nebula, cataloged as NGC 3372, spans over 300 light years and lies about 7,500 light-years away in the constellation of Carina. Eta Carinae, the most

energetic star in the nebula, was one of the brightest stars in the sky in the 1830s, but then faded dramatically.

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How to Make a Universe

By Paul Sutter

Paul M. Sutter is an astrophysicist at SUNY Stony Brook and the Flatiron Institute, host of Ask a Spaceman and Space Radio, and author of How to Die in Space.

"Normal" stuff is optional.

Want to take a stab at unraveling the biggest mysteries of the cosmos? Let's start by exploring the basics of cosmology, the study of our entire universe. Yes, that's a real job — and yes, you can understand it, too.

If you'd like to "bake" a universe, you need two essential ingredients and one optional ingredient. To get the cosmos we know, you need around 25% dark matter and 70% dark energy. Dark matter is some form of matter that is completely invisible; whatever it is, it doesn't interact with light. We don't know exactly what the dark matter is made of, but we do know it's there through its gravitational machinations and interactions with everything else.

Astronomers map dark matter indirectly, via its gravitational pull on other objects.
(Image credit: NASA, ESA, and D. Coe (NASA JPL/Caltech and STScI), CC BY)

Besides the dark matter, you'll need big heaps of dark energy, which is even more mysterious. Dark energy is the name we give to the observed accelerated expansion of the universe — that is, that the universe is getting bigger at a faster rate with every passing day. We suspect that dark energy has something to do with the vacuum of

space-time itself. In other words, if you had an empty box, devoid of all matter and radiation, you would actually have a box full of dark energy. But beyond that niggling suspicion, we're stumped.

That's basically it: With enough dark matter and dark energy, you can account for 95% of the contents of the universe for most of its history.

So, what about that optional ingredient? That's all the normal matter — what cosmologists call "baryonic" matter — like protons and neutrons. It's all the stuff that assembles into atoms and molecules, people and planets, stars and galaxies. All the visible matter of the universe doesn't really matter. But it does make for pretty lights in the night sky, so that's a nice bonus.

The dark web

This is the present-day universe: a bit of normal matter, lots of dark matter and a giant load of dark energy. The dark energy is busy ripping the universe apart at the seams but otherwise doesn't really participate in day-to-day cosmological life.

The dark matter clumps together into a vast, complex, web-like pattern — called the "cosmic web." There are giant balls of dark matter a million or more light-years across. There are long ropes, or filaments, of dark matter stretching between those balls. There are incredible deserts — the cosmic voids — with almost absolutely nothing in them at all. But other than providing the backbone of structure in the universe, the dark matter doesn't really do anything else. It's dark, after all — incapable of interacting with light — so it just sort of sits there.

The small amount of normal matter is trapped in that dark web. Small clumps of dark matter, called halos, host a single galaxy. The giant balls host multiple galaxies — what we call a galaxy cluster. The filaments are home to chains of galaxies caravanning through the light-years.

The cosmic web is the single largest pattern found in nature, filling the entire observable universe (and probably then some; but by definition, we can't see any further). How big is that observable universe, you might ask? Current estimates pin it at around 90 billion light-years across, though the true size of the universe is probably much, much grander.

The backstory

So how did the present-day universe come to be the present-day universe? How did we get all this dark matter arranged in a giant cosmic web? Well, a hundred years ago, we made a remarkable discovery, before we even knew about all the dark stuff going on: The universe is expanding.

Every day, galaxies are getting farther away from one another (on average, that is; an occasional galactic crash is totally possible). This means that the universe was different in the past, and much different in the ancient past. Cosmologists can wind back the clock to when everything in the universe was scrunched up into a very tiny,

uncomfortable point: 13.77 billion years ago, the entire observable universe was the size of a peach and had a temperature of over a quadrillion degrees.

What a remarkable statement! How could we possibly know something that powerful about the cosmos from sitting here on Earth? We can say it because we have evidence for it.

A brief history of the universe

For example, we know that if the universe was really small in the past and it's really big now, then it had to be a lot hotter back then (because all the same stuff was crammed into a much smaller volume). At some phase in the history of the cosmos, the entire universe must have been a plasma, with little electrons torn from their atomic homes. But at some critical point, the universe must have gotten big enough and cold enough for the first atoms to form, releasing a flurry of white-hot radiation in the process. That radiation persists to the present day, where it soaks the universe in a much less intense glow of microwave radiation.

We can see that microwave radiation with microwave telescopes, and it is, by far, the single greatest source of light in the universe. It's a relic of the Big Bang (the name we give to this smaller-in-the-past model of the universe), right there in the sky, night after night.

And yes, it was normal matter that was responsible for releasing that radiation. So, even though normal matter is only a minor component of the cosmos, it's still pretty important.

What are Dark Matter and Dark Energy
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What is Dark Matter
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A Brief History of the Universe
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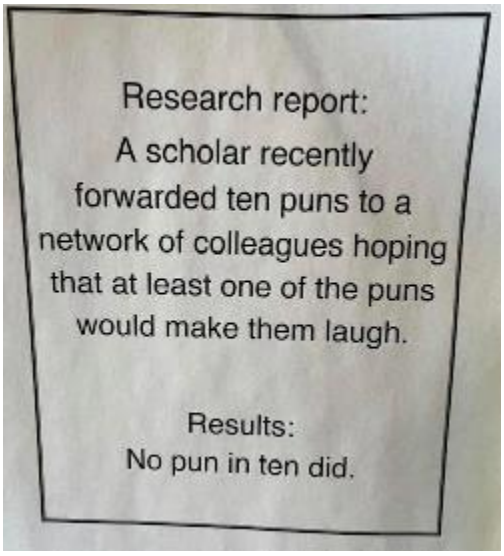
Groaners



I told Sara Johnson this would get us off to a scholarly start.

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Psst. When the guard looks away, we skedaddle.

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Haven’t Had Enough Yet

Breaking News: Archaeologists believe that they've uncovered a cache of pencils that belonged to William Shakespeare. A spokesperson for the dig said they're so badly chewed on the ends...
We can't tell if they're 2B or not 2B.

My friend was bragging that his new 3D printer can print a gun.
Big deal. I have had a Canon printer for years.

My wife: You need to do more chores around the house.
Me: Can we change the subject?
My wife: Ok. More chores around the house need to be done by you.

I don't mean to brag, but...
cashiers are always checking me out.

My wife is blaming me for ruining her birthday
That’s ridiculous, I didn’t even know it was her birthday.

I really wanted to become a monk.
But I never got the chants.

I hate the word "xenophobia", it sounds so...
... foreign

What does Jeff Bezos do before bed?
He puts his pyjamazon.

Who's the genius that decided to call it "Emotional baggage "....
.....and not "griefcase."

My teenage son treats me like a god.
He acts like I don’t exist until he wants something.

I hate when my wife gets mad at me for being lazy.
It's not like I did anything.

Her: "Why do we need walkie-talkies? Our relationship is over."
Me: "Our relationship is what? Over."

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The Man Behind the Indian Hills Community Center Puns

https://www.9news.com/article/life/style/colorado-guide/the-story-behind-that-punny-sign-in-indian-hills/73-560359663

The man behind the billboard puns is Colorado native and volunteer at the local Community Center, Vince Rozmiarek. Aiming to make people laugh, Vince puts up a sign with a new pun or joke a couple times every week. He put his first sign up as an April Fools prank five years ago and has never looked back.

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What is Your Cat Thinking? Here's What Your Furry Friend is Trying to Tell You

By Ailsa Harvey, How It Works magazine

These sociable animals communicate both verbally and visually, but how can we learn to think like a feline?

Cats have been domesticated for over 9,000 years.
(Image credit: Getty Images)

As one of the world's most popular pets, there are more than 500 million domestic cats living in homes all over the world, according to the World Animal Foundation. People are keen to express their own thoughts on cats, sharing their favorite kitten pics on the web and welcoming them lovingly into their homes. But have you ever stopped to question what cats think about us, and what thoughts take place inside a cat's head?

Some animal-behavior experts say that cats might not see as many differences between us and them as we see. Although they see our larger size, this doesn't make them intimidated. They often approach humans similarly to how they would treat another of their own species, John Bradshaw, a cat-behavior expert at the University of Bristol, told National Geographic. So if they continue to view us as fellow cats, they may also expect us to recognize their "feelings" using the clues other cats would naturally understand.

How can humans begin to think like their pets without the ability to speak with them? Much research has been carried out into the lives and behavior of felines, both in homes and out in the wild.

A cat’s thoughts continue into sleep, and their dreams involve complex thoughts and long sequences of events. While it took detailed scientific studies to better understand these furry pets, there are simpler ways you can get inside the mind of your feline friend through observation at home — you just have to know what to look for. And it is important for us to be able to process what is going on in our pets’ heads if we are going to look after them. Ignoring vital signs of stress and discomfort can have significant impacts on the mental health of these animals.

Most mammals feel emotions, but the ways in which different species experience and display these varies. Cats are thought to experience happiness, sadness, fear, and possibly others, according to Psychology Today. While less attached to their owners

than dogs, cats are still believed to possess an affection for humans. This is shown in cats choosing to stay with specific people in their houses, even when they are not being provided with food.

Cats are smarter than we may give them credit for. As we analyze them, they are also taking in our movements and actions, the BBC reported. In some households, cats may seem to favor one family member over another. By learning to understand and respect your cat better, you may even win them over as their favorite human.

Cat personalities: the 'feline five'

There are five main types of cat personality, according to Australia's Science Channel, based on research published in the journal PLOS One. Each category broadly outlines the characteristics displayed by almost 3,000 cats that were observed by researchers.

1. Skittish

An anxious cat will run away from visitors and hide from new situations until they have established safety. If your cat is shy, it is best to ensure there are multiple places to hide around your home.

2. Outgoing

Curious and extroverted cats need constant brain stimulation. Domestic cats with this trait may get bored easily, so continuous new items are needed to keep them occupied. This might mean buying new toys for them to get their heads around.

3. Dominant

This uniquely feline personality comes from wildcats showing who is in charge in wild groups. Dominant cats can be a problem in households with more than one feline, as they often take food and toys from the less dominant cats.

4. Spontaneous

Cats are impulsive in a different way to humans. Their spontaneity isn't always a choice but comes from anxiety. Unable to cope, spontaneous cats act in unpredictable ways. If your cat shows random aggression, you shouldn't shout at them, as this can make them more stressed and exacerbate their spontaneous acts.

5. Friendly

Sociable cats are often those that were exposed to constant interaction as kittens. Appearing happy most of the time, these cats get along with others in the area with little fighting. Friendlier cats also show more affection and seek more contact with their owners.

Cats' wild side

Both wild and domestic cats stalk their prey, staying low and hiding with a fixed gaze before pouncing.
(Image credit: Getty Images)

Wild cats lead entirely different lives to those within our households, but they still share some of the same traits. Tigers and house cats share around 96% of their DNA according to the BBC, and in some mannerisms this can show.

How to communicate with your cat

Communication with your cat doesn't have to be one-way; if you know the right movements, you can interact with your cat and they can respond (if you're lucky).

1. Blink slowly

When your cat performs a series of long, slow blinks, this is actually a sign that your cat is happy and trusts you. Cats use this to show others that they don't see them as a threat, establishing a trusting relationship.

2. Don't stare

Creating the opposite effect to blinking, staring can be threatening to cats. This can be difficult for some pet owners as they love to watch their cats, but be sure not to stare directly for prolonged periods.

3. Understand chattering

You may have noticed your cat making a range of different noises. This chattering is generally a good thing and is a cat's way of greeting you and communicating.

4. No tummy rubs

Often when cats relax they lie on their backs with their bellies exposed. This gives many owners the urge to pet them. Generally cats don't like being rubbed here. Instead, you should build their trust by understanding that they want to be left alone to relax.

5. Listen to purrs

When your cat is content, it will make the soft purring noise that most owners love to hear. While this noise is a sign of love, you should be aware that when a cat is sick it also purrs. Always ensure your cat is healthy.

Initially, domestic kittens have to learn to like people, with regular interactions and training necessary to develop their dependence and co-existence within a human household. After adapting to tamer lives, how do cats continue to display habits of their distant relatives?

The most obvious link to their wild side is their approach to food as prey. Playing with their food, cats quickly learn how to torment and disorientate animals before killing them. You can feed your cat all the tinned food in the world, but chances are they will still drag a dismantled mouse into the house from time to time.

On a separate issue, have you ever wondered why your cat insists on gently headbutting you as it passes by? This behavior stems from particularly social big cats — lions. Their faces are full of scent glands on their chins, cheeks and lips, according to the nonprofit organization Alert, and both lions and domestic cats brush these against others to declare them friends or allies, so you can take it as a compliment.

A less forgivable quality of wildcat nature for many feline owners is evident on furniture, curtains and carpet in the form of scratch marks. A technique used in the wild to mark territory, scratching trees displays the height of the territory's owner to any passing cats, indicating their strength. This may intimidate other cats, according to The American Society for the Prevention of Cruelty to Animals (ASPCA), but in the confines of our houses the emotion that's mostly generated is frustration.

Understanding body language

From the tips of their ears to the ends of their tails, your cat's body language can tell you what they are feeling and thinking at any given moment. Recognizing these signs is important to help you understand and respond to what your cat wants and needs, according to ASPCA.

1. Look for alert eyes

When a cat is taking in more of its surroundings, its pupils dilate to let in more light.
(Image credit: Getty Images)

Eyes are often a gateway to emotion, and for cats this is no different. The size of a cat's pupils and the wideness of their eyes at any given time can be used as an indication of inner feelings.

Large pupils on a cat show that they are highly stimulated by their surroundings. Whether they are absorbing signs of threat or excited or surprised by a change in the environment around them, their eyes are usually one of the best giveaways.

Pupils constrict when a cat is angry or fearful. Just before making a swipe at a teasing owner, you will see a cat widen its eyes so that they are large and round, but the pupil will be a small black slit in the center, according to Michelson Found Animals. Sometimes the eyes aren't entirely visible, revealing only a sliver of the eye through narrowed eyelids. This is an affectionate sign, and can mean they trust you and are relaxed enough to fall asleep, according to an article in PETA Prime.

2. The positioning of the ears

Cat showing aggression

This cat shows signs of fear and aggression, with low yet upright ears.
(Image credit: Getty Images)

The position of a cat's ears varies based on two crucial factors: aggression and fear level. Unlike us, cats can easily point their ears forward, sideways and backward, with 32 muscles controlling them. Turning 180 degrees, and rising and folding independently of one another, these extremities can indicate cats' feelings, according to Cats Protection.

In a relaxed and happy state, a cat's ears face forward and tilt slightly back. If it hears a noise the ears become more upright, and give a constant appearance to others that they are alerted to the surroundings.

The more fearful the feline, the lower the ears become. When overcome with fear the animal isn't likely to be aggressive, and the ears face right back behind the head. If the cat is scared but also aggressive, its ears can be seen turning backwards but staying pointed upwards to assert as much dominance as possible.

The aggressive state of a cat can also be signaled when the ears are upright, according to the ASPCA. Regardless of which way the ears are facing, sitting upright gives a more threatening overall appearance.

Sometimes these feelings aren't instant and the cat is apprehensive. When unsure of how to respond to its surroundings, a cat can sometimes keep one ear up and one down.

3. Pay attention to posture

The shape of a cat's body and the way a cat moves are a tool for silently expressing their mood. By differentiating between the animal's noises we can further determine their emotions.

An arched back is a common depiction of a scared cat, but this isn't all it can mean. If the fur is standing upright then the arched cat is frightened or angry, according to the Royal Society for the Protection of Animals in the U.K., but a raised back and flat fur can mean it wants attention, Animal Wellness magazine reported. These similar shapes have two very contrasting outcomes and show the importance of looking for all the signals.

Finding your cat lying on its back also has a range of meanings. A purring noise indicates that the cat is calm and relaxed. This shouldn't be mistaken for growling, which can be heard when the cat is upset and likely to act out.

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Bach G Minor; Luo Ni Arrangement

https://youtu.be/sNuGw8v6mbg

Ballarina Sultan Mentese works out in accompaniment.

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Yoo Hoo. Whatcha Looking for?

Eric J. Smith

Or…Hi folks. It's me, Cecil the Seasick Sea Serpent.

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Baby Dinosaurs Hatched in the Arctic 70 Million Years Ago

By Laura Geggel – Live Science Editor

It's likely these tiny dinos lived in chilly Alaska year round.

An illustration of the tyrannosaur Nanuqsaurus with its babies, standing near a horned-dinosaur skull.
(Image credit: James Havens)

Baby dinosaurs toddled around the chilly region that is now the Alaskan Arctic about 70 million years ago, according to the "unexpected" discovery of more than 100 baby dinosaur bones and teeth there, a new study reports.

It was surprising to find evidence of a prehistoric nursery in such a cold place, the researchers said. Even during the warm Cretaceous period (145 million to 66 million years ago), Alaska had an average monthly temperature of about 43 degrees Fahrenheit (6 degrees Celsius), and for about four months of the year, the dinosaurs would have lived in permanent darkness and dealt with snowy weather, they said.

The Prince Creek Formation of northern Alaska, where the fossils were found, is "the farthest north that dinosaurs ever lived," study co-lead researcher Gregory Erickson, a paleobiologist at Florida State University, told Live Science. "I don't think it was possible for them to live any farther north," as what is now Alaska was shifted closer to the North Pole than it is today. "It's right up there with Santa Claus," he said.

After analyzing the babies' teeth and bones, the research team determined that the remains belonged to seven different dinosaur species. The discovery indicates that dinosaurs likely lived in this frigid region all year, as the babies would have been too small for annual migrations shortly after hatching, Erickson said. If these wee dinosaurs and their parents stayed in Alaska year-round, they were likely warm-blooded, or endothermic — a feature that would have allowed them to stay active even when temperatures dropped, he added.

Researchers have known that dinosaurs lived in polar regions since oil workers found dinosaur bones there in the 1950s, Erickson said. In the following decades, scientists with the University of Alaska Museum of the North discovered the remains of teensy baby dinosaurs in the state.

"Our work is like panning for gold, finding little bones in a sea of sediment," said study co-lead researcher Patrick Druckenmiller, a professor of geosciences and the director of the University of Alaska Museum of the North. Undergraduate and graduate students have contributed thousands of hours of work to the project, which uncovered baby dinosaurs belonging to several herbivorous species of duck-billed dinosaurs, ceratopsians (horned dinosaurs), thescelosaurids (small, bipedal ornithopods) and pachycephalosaurids (dome-headed dinosaurs). They also found baby remains from carnivores, including tyrannosaurids, deinonychosaurs (maniraptoran dinosaurs) and ornithomimosaurians (ostrich-like dinosaurs).

"The most recent surprise was the smallest ceratopsid tooth of which I am aware in North America, or anywhere really," Druckenmiller told Live Science in an email.

The winter months in the Alaskan Arctic at the time were probably the toughest, especially for the herbivores, whose food would have been either covered in snow or dead, Erickson said.

"How they pulled it off, we don't know," Erickson said. Some small dinosaurs might have burrowed and hibernated, but larger dinosaurs — such as duck-billed dinosaurs and tyrannosaurs — weren't able to burrow. "Maybe they just had to stick it out like a moose or musk oxen. Somehow, they got through," Erickson said.

Researchers dig in the bluffat the Prince Creek Formation
Credit Peter Druckenmiller

Staying put and staying warm

Based on knowledge of dinosaur life cycles, the researchers concluded that these baby dinosaurs stayed put after hatching, as they wouldn't have had time to mature before winter set in. That's partly because dinosaur eggs took a long time to incubate — anywhere from three to six months, Erickson and colleagues determined in a 2017 study published in the journal Proceedings of the National Academy of Sciences.

These long egg-hatching times, "combined with the fact that you had a very short growing season up there to flourish before the winter set in, [baby dinosaurs] just did not have time" to grow big enough before migrating southward, Erickson said. "There's no way that these tiny dinosaurs made the march down to Alberta to escape the winter."

There is evidence that some long-necked sauropod dinosaurs and duck-billed dinosaurs at lower latitudes of western North America migrated, but it's likely that the Alaskan dinosaurs, especially the smaller individuals, stayed put, the researchers said. Spending the winter in polar conditions would be challenging for cold-blooded, or ectothermic, creatures. In fact, paleontologists haven't found ectothermic animal fossils — such as those from crocodilians, lizards or snakes — at Prince Creek Formation, Druckenmiller said. Moreover, there's only one ectotherm known from the Alaskan Arctic today: the wood frog, which essentially turns into an ice pop in the winter.

Based on this, as well as endothermy results from other studies analyzing dinosaurs' rapid growth rates, it's "likely dinosaurs had some degree of endothermy to cope with winter conditions, particularly the low/no light and cold temperatures," Druckenmiller wrote in the email.

The study was published online Thursday (June 24) in the journal Current Biology.

Originally published on Live Science.

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Summertime

Photo by Bill Warner

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Summertime – Ella Fitzgerald

https://www.youtube.com/watch?v=u2bigf337aU

the First Lady of Song, Queen of Jazz, and Lady Ella. She was noted for her purity of tone, impeccable diction, phrasing, timing, intonation, and a "horn-like" improvisational ability, particularly in her scat singing.

How 'bout we let Louis in on this?

https://www.youtube.com/watch?v=lnXLVTi_m_M

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Whistling Language? It's Still Turkish to Me

https://www.youtube.com/watch?v=l117wfB0g3o

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Pride Day Parades in Africa

https://www.youtube.com/watch?v=WsF2Jw252oM

https://www.youtube.com/watch?v=LOK7YVLfZmQ

https://www.youtube.com/watch?v=LOK7YVLfZmQ

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Hey, didn't you used to be a cigar?

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Yep.

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Youngest Grandmaster in Chess History

At 12 years, 4 months and 25 days, American chess player Abhimanyu Mishra is the world's youngest grandmaster.
Austin Fuller

Abhimanyu Mishra is now the world's youngest chess grandmaster. The tween from New Jersey, all of 12 years, 4 months and 25 days, broke Sergey Karjakin's 19-year-old record with a third norm in Budapest on Wednesday. Karjakin, who was a world championship challenger to Magnus Carlsen in 2016, had earned his GM title at 12 years, 7 months.

In chase of the GM title, Abhimanyu and his father have been camping in Budapest since April this year. He earned two norms over two months, and his final norm arrived with a win over Indian GM Leon Mendonca with black pieces at the Vezerkepzo GM mix on Wednesday in what was his final tournament opportunity in the Hungarian capital before he travels to Sochi for the Fide World Cup.

For a grandmaster title, a player must score three GM norms and touch an Elo rating of 2500 and above. The norms can be awarded only in tournaments where at least 50% of the opponents are titleholders, and at least one-third of them GMs.

Abhimanyu has made something of a habit of youngest-ever distinctions and currently holds the record for youngest international master.

Soon after he became the highest-rated under-9 player in the world, he was invited by the Kasparov Chess Foundation for a rigorous three-day assessment in November 2018. He was the youngest of the flock of players who were called, and among the handful picked for the Young Stars programme. It threw open the opportunity to interact, present his games and seek feedback from Kasparov twice a year, apart from individualised training sessions with GM coaches.

"At his age, to have Garry mentor and go over his games is straight out of a dream for any chess player," says Hemant Mishra, Abhimanyu's father. "There was a parent interview as well, and that was perhaps the best day of my life." He was granted special permission to be present in the room when Kasparov analysed Abhimanyu's games, taking copious notes of every remark by the former world champion. Since last year, the pandemic forced a shift of the sessions online.

Even before he'd babbled his first words, Abhimanyu was introduced to chess pieces through engaging stories by his father at age 2 and a half. Learning the sport was all right, but as a young boy at tournaments, the struggle was to match the physical stamina of players at least five times older than he. In a winning position, with a pawn up at the New Jersey Open, a 5.5-year-old Abhimanyu once found himself struggling to stay awake at the board past midnight. "His opponent obviously figured there's no way a kid that young can go on 'til so late so he just stalled and didn't play a move for a whole hour," Hemant says, looking back. "Abhimanyu kind of wanted the torment to end, so he offered a draw. His opponent turned it down and was like, 'No way, I'm winning this!"

That defeat, Hemant says, "Changed everything." It was to be the starting point of the father-son team throwing in hacks, simulations and just about anything for survival in a ruthless adult universe of players. The workaround to managing sleep in games spilling into late nights has been for the young boy to develop the habit of napping between rounds in their car or spare room at the tournament venue.

At the following year's edition of the competition, Abhimanyu, playing against a 35-year-old chess coach, took bathroom breaks to splash his eyes with cold water and paced between moves to fight fatigue. They were locked in a dead drawn rook-pawn endgame, and this time too, the game dragged well past 2 a.m. The 6.5-year-old physically inched toward breaking point.

Luckily enough, his opponent overreached and lost. "I didn't win because I'm the better player, I won because you don't know endgames well enough!" Abhimanyu would cheekily retort after the hard-fought victory. Despite being a player belonging to a generation nursed on computers, a heavy diet of chess books formed his early learning tool. He'd done strengths and weaknesses analysis of on "Silman's Complete Endgame Course" by age 6.

In his chase for an IM norm two years ago, Abhimanyu put himself through a 10-day mock drill at home to wind his body and sleep schedule to California time, three hours behind New Jersey. Together with his father, he went over preparations until 3 a.m. every night, took walks outside their home to stay awake and then flew to California on the starting day of the tournament. "I was pretty certain he wouldn't be able to do well," says Hemant. "The jet lag, plus having to play black against a 2650 GM, looked too difficult. After close to six hours of play, Abhimanyu managed to force a draw. To me, it felt like a win because he'd managed to fight the challenges of his age."

Named after Hindu mythology's young hero in strategic warfare who went to battle in the face of certain death, Abhimanyu matches his age with the number of hours he spends daily on chess. He has coaching support in GM Arun Prasad and GM Magesh Chandran, and the months starved of competitions last year have been spent in doubling down in intense training.

"Up until now I've been taking the calls, but once he becomes GM, he's free to choose what he wants to do with his life," Hemant says. "Whether it's the tournaments he

plays or if he wants to continue to play chess at all. It'll be his decision." The 12-year-old himself, of course, is dreaming of being world chess champion one day.

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Why Don't We Remember Being Babies?

By Benjamin Shouse - Life's Little Mysteries contributor

Until sometime between the ages two and four, however, children lack "episodic memory" -- memory regarding the details of a specific event.
(Image credit: Surabky | Dreamstime)

Virtually nobody has memories from very early childhood but it's not because we don't retain information as young children. Rather, it may be because at that age, our brains don't yet function in a way that bundles information into the complex neural patterns that we know as memories.

It's clear that young children do remember facts in the moment such as who their parents are, or that one must say "please" before mom will give you candy. This is called "semantic memory."

Until sometime between the ages two and four, however, children lack "episodic memory" -- memory regarding the details of a specific event. Such memories are stored in several parts of the brain's surface, or "cortex." For example, memory of sound is processed in the auditory cortexes, on the sides of the brain, while visual memory is managed by the visual cortex, at the back. A region of the brain called the hippocampus ties all the scattered pieces together.

"If you think of your cortex as a flower bed, there are flowers all across the top of your head," said Patricia Bauer of Emory University in Atlanta. "The hippocampus, tucked very neatly in the middle of your brain, is responsible for pulling those all together and tying them in a bouquet." The memory is the bouquet -- the neural pattern of linkages between the parts of the brain where a memory is stored.

So why do kids usually fail to record specific episodes until the two-to-four age range? It may be because that's when the hippocampus starts tying fragments of information together, said psychologist Nora Newcombe of Temple University in Philadelphia.

And there may be a reason for this, Newcombe said. Episodic memory may be unnecessarily complex at a time when a child is just learning how the world works.

"I think the primary goal of the first two years is to acquire semantic knowledge and from that point of view, episodic memory might actually be a distraction," Newcombe said

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Jell-O Comes from Horse and Cow Hooves, Right?

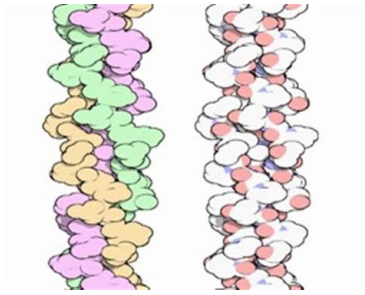
By Michael Dhar - LiveScience Contributor

Jell-O is a sweetened gelatin product made by boiling the bones and hides of animals. (Image credit shutterstock)

Sold since 1897, Jell-O has occupied a familiar place on American dinner tables for decades. But what is Jell-O made of?

"Jell-O" is actually a brand name, currently owned by Kraft Foods, and is used to market a range of desserts and snacks. But most people use the term to refer to the gelatin-based desserts that are also sold under the "Jell-O" name. Those consist of gelatin, in addition to colorings, sweeteners and other flavorings, such as strawberry, orange and lime.

Gelatin itself is a collection of long, stringy animal-based proteins called collagen, which bond together in three-stranded helical structures — similar to the two-stranded helices of DNA.



Urban legends claim that gelatin comes from horse or cow hooves, though that's not exactly true. The collagen in gelatin does come from boiling the bones and hides of animals processed for their meat (usually cows and pigs). But hooves consist of a different protein, keratin, that can't produce gelatin.

To make Jell-O, you need to heat the gelatin in water. Heating breaks the bonds holding the collagen together. Next, the heated water-gelatin solution must be cooled, allowing the collagen strands to rebond in a network, but now with water trapped inside. The collagen network gives Jell-O its semisolid properties, while the trapped water keeps it jiggly.

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Automatic Dog Wash?

https://www.youtube.com/watch?v=u3tAiCUQA3s

How great must that feel?

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An Airline Captain's Announcement

"The American flag does not fly because the wind moves past it...the flag flies from the last breath of each military member who has died serving it."

abc news

My lead flight attendant came to me and said, "We have an HR. on this flight." (H.R. stands for Human Remains.)

"Are they military?" I asked

'Yes', she said.

'Is there an escort?' I asked.

'Yes, I've already assigned him a seat'.

'Would you please tell him to come to the Flight Deck. You can board him early," I said...

A short while later a young army sergeant entered the flight deck. He was the image of the perfectly dressed soldier. He introduced himself and I asked him about his soldier.

The escorts of these fallen soldiers talk about them as if they are still alive and still with us. 'My soldier is on his way from Iraq back to Virginia,' he said. He proceeded to answer my questions, but offered no other words.

I asked him if there was anything I could do for him and he said no. I told him that he had the toughest job in the military, and that I appreciated the work that he does for the families of our fallen soldiers. The first officer and I got up out of our seats to shake his hand. He left the Flight Deck to find his seat.

We completed our preflight checks, pushed back and performed an uneventful departure.

About 30 minutes into our flight, I received a call from the lead flight attendant in the cabin.

'I just found out the family of the soldier we are carrying, is also on board', she said. She then proceeded to tell me that the father, mother, wife and 2-year old daughter were escorting their son, husband, and father home. The family was upset because they were unable to see the container that the soldier was in before we left.

We were on our way to a major hub at which the family was going to wait four hours for the connecting flight home to Virginia. The father of the soldier told the flight attendant that knowing his son was below him in the cargo compartment and being unable to see him was too much for him and the family to bear. He had asked the flight attendant if there was anything that could be done to allow them to see him upon our arrival. The family wanted to be outside by the cargo door

I could hear the desperation in the flight attendants voice when she asked me if there was anything I could do. 'I'm on it', I said. I told her that I would get back to her.

Airborne communication with my company normally occurs in the form of e-mail like messages. I decided to bypass this system and contact my flight dispatcher directly on a secondary radio. There is a radio operator in the operations control center who connects you to the telephone of the dispatcher. I was in direct contact with the dispatcher. I explained the situation I had on board with the family and what it was the family wanted. He said he understood and that he would get back to me.

Two hours went by and I had not heard from the dispatcher. We were going to get busy soon and I needed to know what to tell the family. I sent a text message asking for an update I saved the return message from the dispatcher and the following is the text:

'Captain, sorry it has taken so long to get back to you. There is policy on this now, and I had to check on a few things. Upon your arrival a dedicated escort team will meet the aircraft. The team will escort the family to the ramp and plane side. A van will be used to load the remains with a secondary van for the family.

The family will be taken to their departure area and escorted into the terminal, where the remains can be seen on the ramp. It is a private area for the family only. When the connecting aircraft arrives, the family will be escorted onto the ramp and plane side to watch the remains being loaded for the final leg home.

Captain, most of us here in flight control are veterans. Please pass our condolences on to the family. Thanks.

I sent a message back, telling flight control thanks for a good job. I printed out the message and gave it to the lead flight attendant to pass on to the father. The lead flight attendant was very thankful and told me, 'You have no idea how much this will mean to them.'

Things started getting busy for the descent, approach and landing. After landing, we cleared the runway and taxied to the ramp area. The ramp is huge with 15 gates on either side of the alleyway. It is always a busy area with aircraft maneuvering every which way to enter and exit. When we entered the ramp and checked in with the ramp controller, we were told that all traffic was being held for us

'There is a team in place to meet the aircraft', we were told. It looked like it was all coming together, then I realized that once we turned the seat belt sign off, everyone would stand up at once and delay the family from getting off the airplane. As we approached our gate, I asked the copilot to tell the ramp controller, we were going to

stop short of the gate to make an announcement to the passengers. He did that and the ramp controller said, 'Take your time.'

I stopped the aircraft and set the parking brake. I pushed the public address button and said: 'Ladies and gentleman, this is your Captain speaking: I have stopped short of our gate to make a special announcement. We have a passenger on board who deserves our honor and respect. His name is Private XXXXXX, a soldier who recently lost his life. Private XXXXXX is under your feet in the cargo hold. Escorting him today is Army Sergeant XXXXXX. Also, on board are his father, mother, wife, and daughter Your entire flight crew is asking for all passengers to remain in their seats to allow the family to exit the aircraft first. Thank you.'

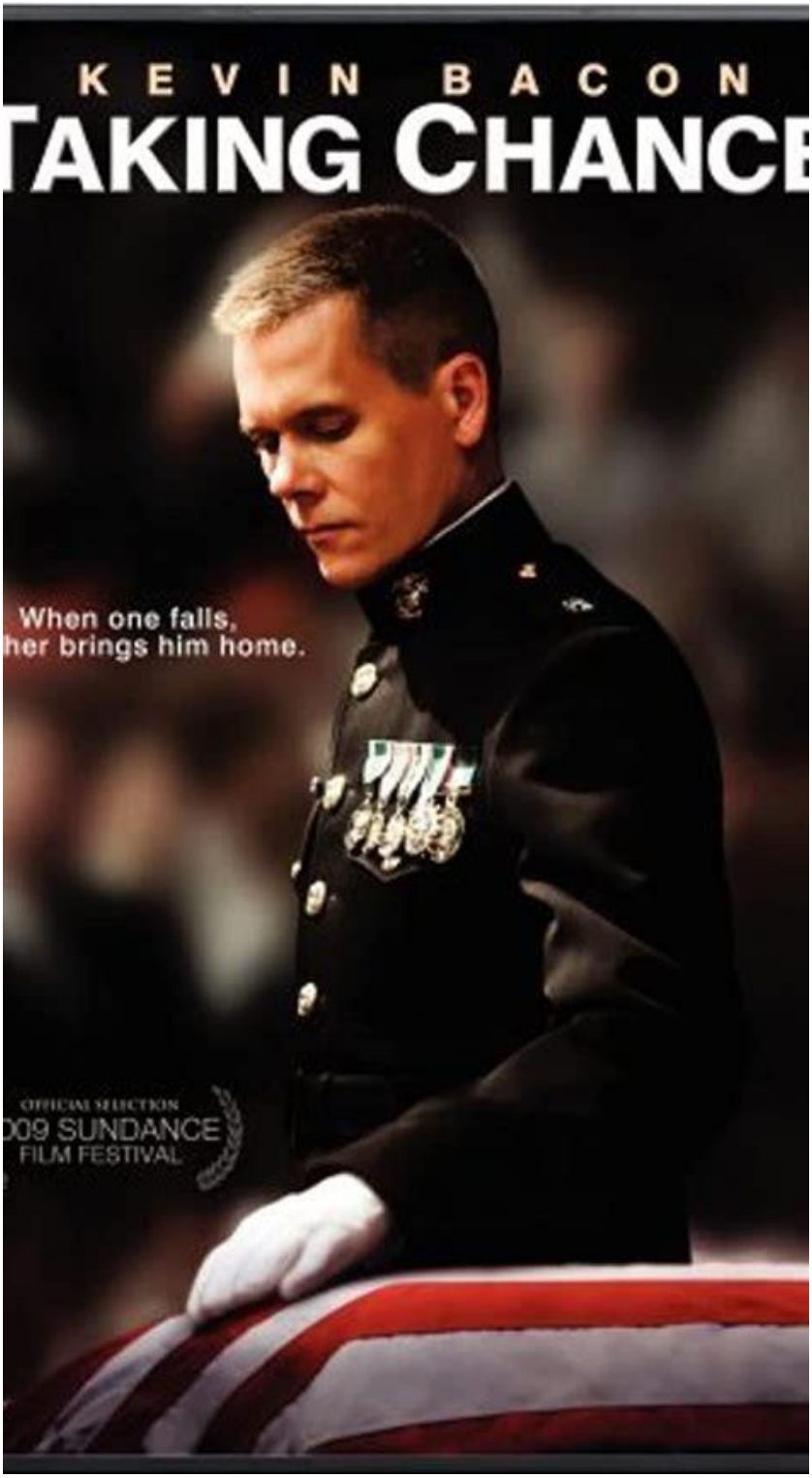
We continued the turn to the gate, came to a stop and started our shutdown procedures. A couple of minutes later I opened the cockpit door. I found the two forward flight attendants crying, something you just do not see. I was told that after we came to a stop, every passenger on the aircraft stayed in their seats, waiting for the family to exit the aircraft.

When the family got up and gathered their things, a passenger slowly started to clap his hands. Moments later, more passengers joined in and soon the entire aircraft was clapping. Words of 'God Bless You', I'm sorry, thank you, be proud, and other kind words were uttered to the family as they made their way down the aisle and out of the airplane. They were escorted down to the ramp to finally be with their loved one.

Many of the passengers disembarking thanked me for the announcement I had made. They were just words, I told them, I could say them over and over again, but nothing I say will bring back that brave soldier.

I respectfully ask that all of you reflect on this event and the sacrifices that millions of our men and women have made to ensure our freedom and safety in these United States of America.

Taking Chance: https://www.youtube.com/watch?v=MtmiLdzzgGE .



This is the trailer, followed by the full movie. If you haven't seen it, please make the time to do so. I think you'll want to congratulate Kevin Bacon for the job he did in making this story—a true one—come to life

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Game Changers

'Miraculous' Mosquito Hack with Wolbachia Bacteria

thetimes.co.uk

Cases of dengue fever were cut by more than 77% in an Indonesian trial using mosquitoes infected with bacteria that provide a natural defense against the virus. Hailed as a groundbreaking study, the approach raises the possibility of eliminating a debilitating disease responsible for up to 400 million infections and thousands of deaths each year.

The insects were infected with the Wolbachia bacteria, found in about 60% of insects but not in the Aedes aegypti mosquito, the main carrier of dengue. The bacteria occupy the same space as the virus, competing for resources and dramatically slowing the replication of the virus. Scientists released infected mosquitoes into the local environment; after 10 months, the bacteria had spread through the insect population.

Watch an overview of the science:
https://www.youtube.com/watch?v=ut2UxF5gEDI

[It's well worth your time to watch the progress of a seemingly successful program.]

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