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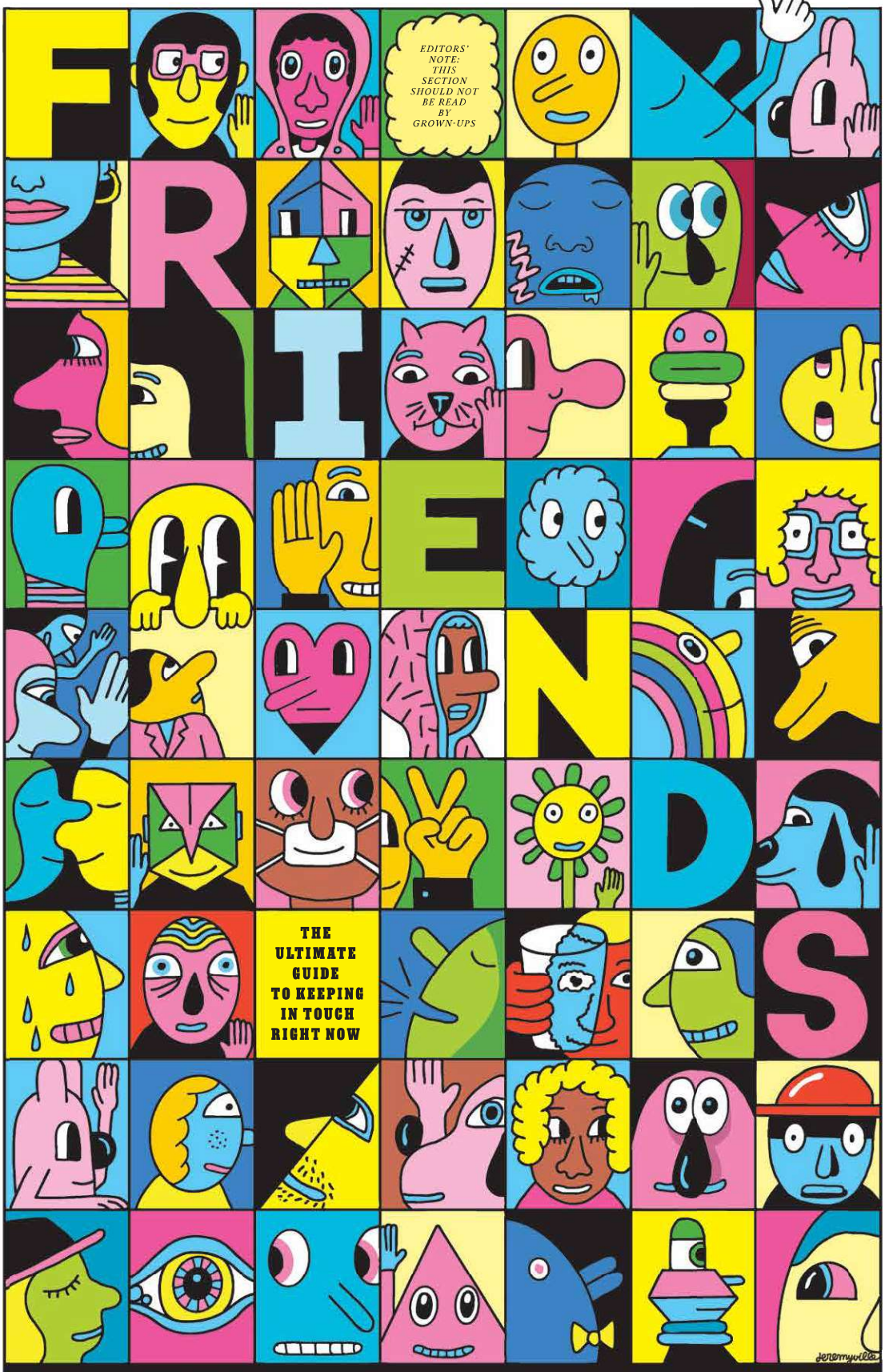
For Kids



'I HAD COVID-19' ● DISCOVERED: THE LONGEST SEA CREATURE! ● TEENS ON THE FRONT LINES ● ROBLOX VS. FORTNITE VS. ANIMAL CROSSING ● WHAT REOPENING LOOKS LIKE AROUND THE WORLD

ILLUSTRATION BY JEREMYVILLE

Science

TEXTING WITH A SCIENTIST

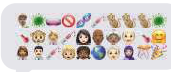
THE RUSH FOR A VACCINE

BY CHELSEA LEU

OUR BEST HOPE for ending the coronavirus pandemic is a vaccine. By protecting people from getting the disease, it would finally make it safe for schools, restaurants and businesses to fully reopen. But making a vaccine for a completely new virus isn't easy. We texted with Sarah Stanley, an infectious-diseases researcher at the University of California, Berkeley, to find out what's happening in scientific laboratories worldwide. An edited and condensed version of our conversation follows.

Can you tell me how scientists are developing a vaccine for coronavirus, using only emoji?

Chelsea



Sarah

That makes sense! I think 🤔 Can you break it down for me?

Sure! The key to a vaccine is to make something that looks like the virus but doesn't make you sick. This tricks your body into making an immune response that will fight the real virus and stop it from infecting you.

To make a vaccine, scientists grow the virus in a lab and kill it or weaken it to make it safe. For many diseases, they will test experimental vaccines in monkeys. If they are safe, the vaccine will be tested in a small group of people. If the vaccine works in this test group, it will then be used to protect people all over the world.

Who's working on a coronavirus vaccine right now, and what step are they on?

There are efforts here in the United States 🇺🇸, but people are also working on it in Japan 🇯🇵, China 🇨🇳, Australia 🇦🇺 and Germany 🇩🇪.

One group far along is from the University of Oxford in England. They have already started testing their vaccine in people. In China, another company just showed that their vaccine successfully protected monkeys from infection.

How long does it normally take to develop a vaccine for a totally new 🦠? And how have scientists been speeding up the process?

Normally this process might take many years. One thing that helped is that scientists at Oxford were already working on vaccines for other coronaviruses. But mostly this is a great example of how quickly things can happen when the whole world works together toward the same goal!

What are the challenges in developing a coronavirus 💉 so quickly?

Every step is challenging! Making vaccines is usually a process of trial and error. Another major challenge is finding a way to make millions (billions?) of doses of the vaccine as quickly as possible. Then you have to figure out how to get the vaccine to people all over the world. This will take a lot of money and many experts and governments working together.

That sounds like a huge amount of work! 😩 How long do you think it might be before we get a 💉 for the coronavirus?

Some groups are saying they can have vaccines widely available next year. I hope they are right! 🤞 A vaccine is our best bet for ending the ongoing global pandemic. That said, there are other strategies that scientists are working on, including identifying drugs that can help people recover when they are sick.

Thanks, Sarah!

DEEP IN THE ABYSS, SCIENTISTS FIND THE WORLD'S

LONGEST ANIMAL

BY NICHOLAS ST. FLEUR

A strange deep-sea creature called a siphonophore. This one could measure up to 400 feet long.

MOVE OVER, BLUE WHALES. There's a new longest animal in the ocean. Meet the siphonophore, a sea creature that resembles floating snot. A scientific team exploring underwater canyons off the coast of Western Australia recently discovered a gigantic swirling siphonophore that measured at least 150 feet long. "It has been compared to a U.F.O. — it's very otherworldly," says Lisa Kirkendale, the head of the aquatic zoology department at the Western Australian Museum.

Biologists have long known about siphonophores, which are colonial organisms, meaning they are made up of millions of tiny clones clustered together in colonies that form one mega-animal. The clones, known as zooids, form groups that each take on a distinct task: some sting prey, some digest food and some help the animal swim.

Kirkendale and her team were aboard a research vessel called Falkor when they discovered the strange stringy, sting-y thingy. They were using a remotely operated robot about the size of a Smart car that could dive to depths of 14,700 feet. Its cameras provided front-row seats to the bizarre animals that lurk in the ocean's abyss, like giant flashing squids, slimy starfish and a sea cucumber covered in shiny shells that is being called a "treasure pickle." On their trip they discovered up to 30 new underwater species.

The siphonophore was wrapped around itself in loose spirals. The robot circled around its outermost ring and measured its length as 150 feet: longer than the longest known blue whale, which came in at around 111 feet, and the largest measured jellyfish, whose tentacles were 120 feet long.

But if the siphonophore were unrolled into a straight line rather than coiled up, it is possible it would have measured close to 400 feet from end to end — longer even than the world-record holder, a bootlace worm found in 1864 in Scotland that measured 180 feet long.

The researchers aren't sure why this siphonophore was so big, but they think that with its stinging tentacles it was able to catch little crustaceans and even sometimes small fish to eat. "Finding the siphonophore was definitely an accidental discovery," says Nerida Wilson, the chief scientist of the project. "We never set out to find the longest animal — it was just one of those wonderful moments." ◆

MEET YOUR

NEW ROOMMATES

HOW MANY OF THESE CREATURES CAN YOU FIND?

BY EMILY ANTHES · ILLUSTRATION BY ANDREEA DUMUTA

MOST OF us spent this spring stuck inside. While grasshoppers hatched, frogs spawned and birds sang, we shuffled to and from different rooms for a change of scenery. But just because we're indoors doesn't mean we can't explore. Our homes are teeming with bacteria, fungi and insects, and there's just as much to see inside as there is outside if you know where to look. Grab a magnifying glass and meet your hidden roommates now with this scavenger hunt! (But remember: Although most of these organisms are harmless or even beneficial cohabitants, you should still proceed carefully and wash your hands when you're done.)

○ **1. BREVIBACTERIA:** Many of the bacteria in our homes actually live on us, so you don't need to go into another room to find this one. Just look down! Brevibacteria live on human feet, eating dead skin cells. They're too small to see with the naked eye, but you can detect their presence by taking a whiff of a dirty sock or a well-worn shoe; as they eat, they produce a compound that can make your feet smell.

○ **2. PENICILLIUM COLONIES:** This fungus looks like tiny palm trees under a microscope and is a common type of bread mold. It forms large, fuzzy spots on stale bread that tend to be white, gray or greenish-blue. It can spoil food, making it dangerous to eat (please don't consume moldy bread), but it's also the source of penicillin, an important antibiotic used to treat ear infections and strep throat.

○ **3. BOOKLICE:** You might find these tiny beige insects, which sometimes infest museums and libraries, dining on old or mildewy books. These soft-bodied, wingless critters also eat other household molds, including fungi that grow on rotting wood and stored grain like the flour in your pantry.

○ **4. FUNGUS GNATS:** Adult gnats are small, delicate flies with slender antennae and veined wings. They're attracted to light, so look for them in and around lamps and light fixtures. Young gnats, on the other hand, can be found feeding on soil fungi and decaying houseplants. These wormlike larvae are white or translucent with dark heads.

○ **5. SILVERFISH:** As their name suggests, these long, flat insects are known for their silver, scale-covered bodies. They have three tail-like appendages, can run really quickly and eat almost anything, like food scraps, paper and wallpaper paste. You can spot them anywhere throughout your home, including the attic. What's that scurrying across your floor or up the wall? Probably a silverfish!

○ **6. CARPET BEETLES:** These scavengers have oval bodies that can be black, brown or speckled, and they feast on a wide variety of dried debris, including animal hair, fur, feathers, dead insects and even dog kibble. Because they also venture outside to eat flower pollen, they can most likely be found on your windowsill.

○ **7. CELLAR SPIDERS:** You might know these spiders, which have extremely long, thin legs and tiny bodies. They are common indoors and tend to prefer dark, hidden places, like basements and crawl spaces. These web-spinners prey on ants, flies and even other spiders, making them a natural form of pest control. ◆

Siphonophore: Schmidt Ocean Institute