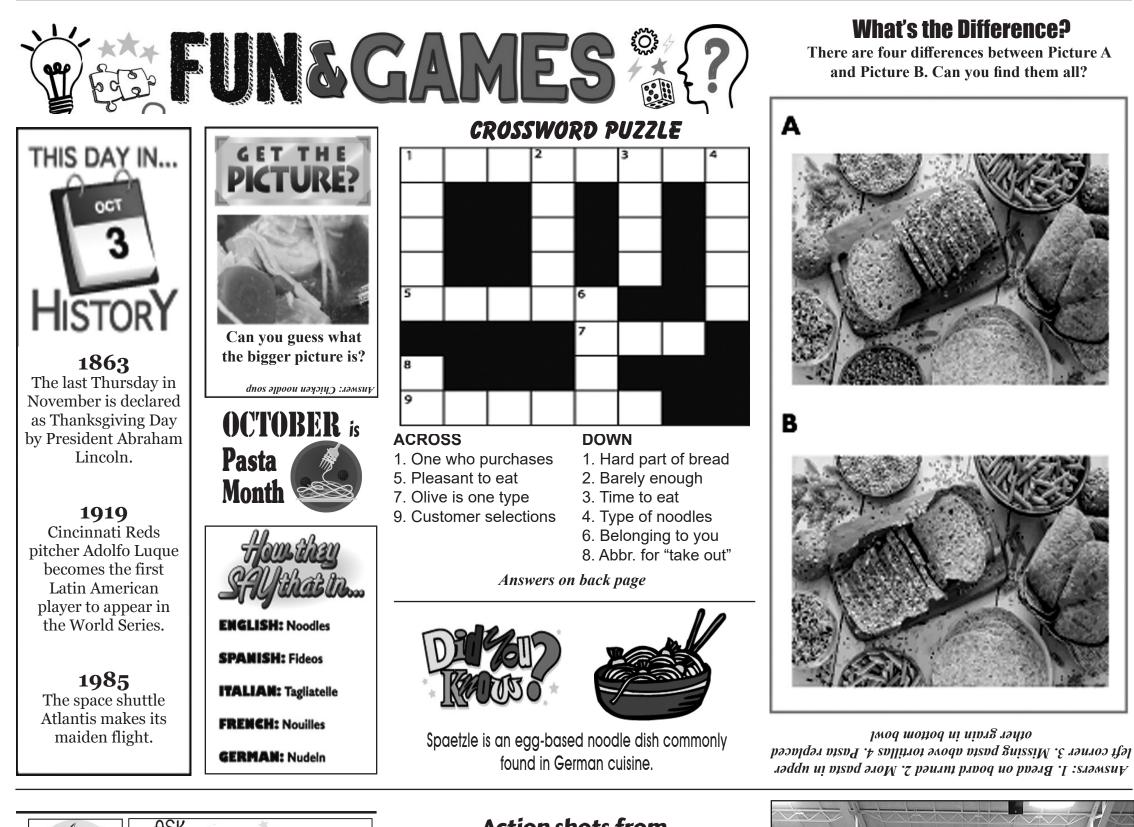
Lakota American

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Dear Dr. Universe: How do we get muscles? -- Jalane, 10, Ohio Dear Jalane,

I've always been a bookish cat. I spend most of my time in the lab rather than running, prowling and pouncing like most felines.

But I still have super strong muscles. They're way bigger than when I was a kitten.

I asked my friend Edward Johnson how I got so buff. He teaches classes about the human



Action shots from **Nelson County sports teams**

Volleyball and football photos from the previous week were taken by Brenda Steffan. Scores were not available at press time.





body in the School of Biological Sciences at Washington State University.

He told me that muscles are made of muscle cells. They're also called muscle fibers or myocytes.

We usually think cells are way too small to see with our eves. But muscle cells can be some of the longest cells in your body. They're shaped like long tubes or hot dogs. Each muscle cell is as long as the muscle it's part of. So a muscle cell in a grown-up's thigh muscle could be 14 inches long!

A muscle is a bundle of those long, hot dog-shaped muscle cells. Once you're an adult, you don't grow new muscle cells. But the muscle cells you have can get bigger or smaller.

"Each individual muscle cell responds to exercise and being used by getting bigger," Johnson said. "That's called hypertrophy."

When you run, jump or pick up something heavy, that work tells your muscle cells to get bigger.

That's because each muscle cell is made of proteins called myofilaments. As you flex and release your muscles, those proteins slide over each other. That's how muscles work.

When you use your muscles, that movement tells your body to make more myofilaments for your muscle cells. More myofilaments packed into your muscle cells means bigger muscle cells -and that means bigger muscles.

On the other paw, not using your muscles can make them smaller. That's called atrophy.

You may have seen an atrophied muscle if you've ever seen an arm or leg that's been in a cast for a while. The cast keeps the muscles still while a broken bone heals. When the cast comes off, that arm or leg probably looks like it shrunk a little bit. The muscle cells have gotten smaller because they didn't exercise for a long time.

Johnson told me that muscle atrophy is a problem for astronauts, too. On Earth, gravity always pushes on your body. Your muscles work harder because they have to move against gravity.

"In space, the effect of grav-



ity is not there," Johnson said. "Šo, NASA has spent a lot of money with muscle physiologists, trying to come up with ways to use the muscles so that they don't atrophy."

Maybe that's why I'm so strong even though I mostly lift books. My muscles work hard because of the gravity of your excellent questions.

Sincerely, Dr. Universe

Pop culture costumes are bound to be big this year

One of the best ways to get in on the Halloween costume fun is to choose a look that borrows from popular culture. This year there is no shortage of inspiration for those who want to look like their favorite movie, television and game characters.

Comic book hero "frenemies'

Marvel's popular characters joined forces in "Deadpool & Wolverine" this year with the titular stars played by Ryan Reynolds and Hugh Jackman, respectively. Whether you're team red or team yellow, dressing up as one of these action characters is certainly going to be popular for Halloween 2024.

Whirlwind romance

Fans of the "Bridgerton" television series know that the third season follows the romance between Penelope Featherington and Colin Bridgerton. This is a perfect couples' costume, and one that will be lavish at any Halloween gathering.

Travis and Taylor

The last year-plus has been notable for both football fans and Swifties. Three-time Super Bowl champion Travis Kelce and pop superstar Taylor Swift became the power couple of record, earning fans from both sides of the football/music aisle. Dressing up as this duo is sure to get rave reviews.

Country vibes

Beyoncé ushered in a new era of country music in 2024 with the release of her album "Cowboy Carter." Emulating



the pop-to-country princess is a great way to turn heads this Halloween.

The "Juice is loose"

It's been 36 years since audiences enjoyed the hijinks of Beetlejuice, the star character of Tim Burton's horror-comedy. With the release of "Beetlejuice, Beetlejuice," complete with most of the original actors reprising their roles, there's no question that Beetlejuice, Lydia and Delia costumes will be trending this October.

Political opponents

The race to the White House this year certainly has had its twists and turns. Political figures often are in fashion for Halloween costumes, and this vear that is bound to be the case with individuals dressing up as the Republican and Democratic presidential candidates.

Another pink lady

While "Barbie" was the chic lady in pink for 2023, thanks to the announcement of the new prequel series dubbed "Elle,' Elle Woods from the "Legally Blonde" franchise is sure to be trending this Halloween.

Wacky Wednesday

Now that another series installment is in the works, there will be plenty of people dressed up as Wednesday Addams this Halloween.

-metrocreativeconnection



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