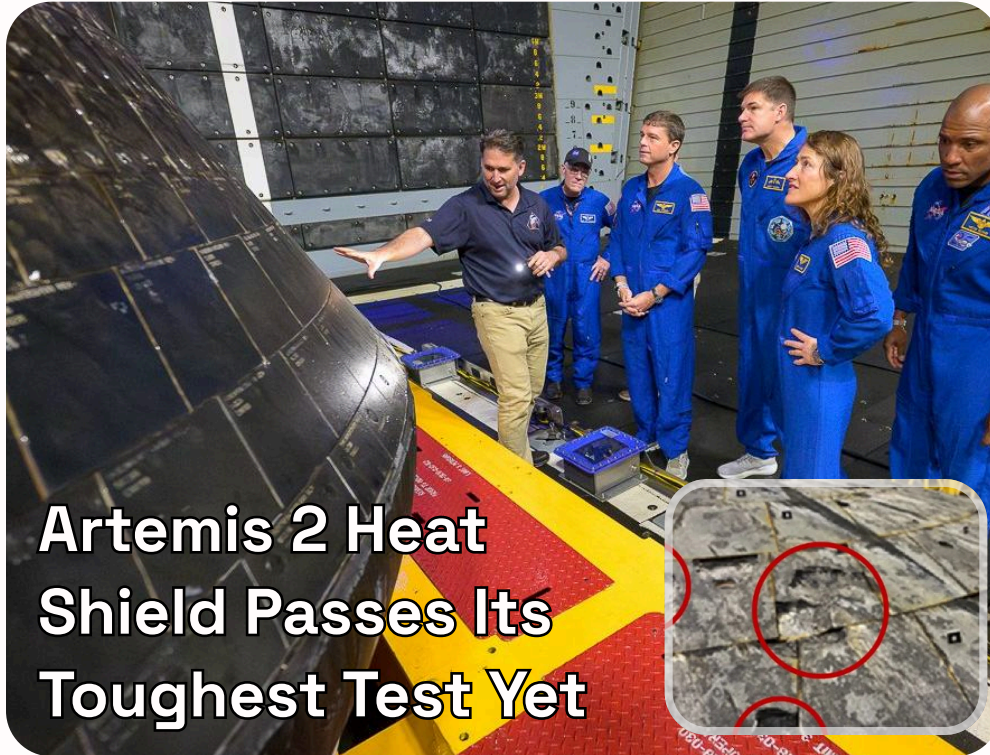


THE SPARK TIMES

Monday . May 4, 2026



Artemis 2 Heat Shield Passes Its Toughest Test Yet

When NASA's **Artemis 1** capsule returned from the Moon in **2022**, engineers found a problem. The **heat shield**, the layer that protects the spacecraft from 5,000-degree temperatures during reentry, had **lost chunks of material in over 100 places**. This is called 'char loss', and it was not supposed to happen.

Here is what went wrong. Artemis 1 used a technique called **skip entry**: the **capsule dipped into the atmosphere**, slowed down, then **bounced back up into space** before coming down again. During that bounce, pieces of the shield was broken off.

For Artemis 2, NASA did not rebuild the heat shield. Instead, they **changed the angle**. The capsule came in steeper and more direct, **skipping the bounce entirely**. That allowed the gas built up between the shield and space capsule to escape smoothly. The Artemis 2 crew splashed down safely in the Pacific Ocean on April 10, just 2.9 miles from their target. The shield held up almost perfectly, and NASA says the fix worked!

Source: NASA

May the Fourth Be With You!



Every year on May 4, fans celebrate Star Wars Day: a holiday based on the famous pun "May the Fourth be with you." This year, the galaxy is everywhere: LEGO launched an 1,809-piece Mandalorian set, Crocs dropped Grogu-themed clogs, and Disneyland's Star Wars Nite sold out four nights in a row. Disney also drops the finale of Maul, Shadow Lord, on the big day.

Source: CNN

New Pitviper Found in China's Panda Park



A new snake species called the Huaxi Green Pitviper was discovered hiding in China's Giant Panda National Park. Scientists confused it with another species for decades until DNA tests revealed the difference. Named after the philosopher Laozi, it is the 58th species in its genus.

Source: The Guardian

“The important thing is not to stop questioning.” - Albert Einstein

Star Wars: The Science Behind the Fiction



In 1977, a movie about a farm boy, a princess, and a galaxy far, far away changed entertainment forever. Nearly 50 years later, scientists are asking: how much of that galaxy could actually be real?



A Galaxy Far, Far Away

Star Wars tells the story of a **young farm boy named Luke Skywalker who must battle the evil Darth Vader to save the galaxy**. It travels through a universe filled with thousands of planets, alien species, and a mysterious **energy called the Force** that gives **certain people superpowers**.

There are glowing sword-like weapons called **lightsabers**, robots called **droids**, and **starships** that cross the galaxy in seconds!

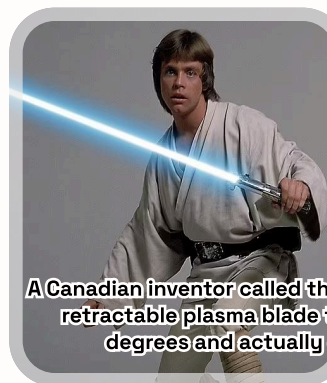
Star Wars is one of the most recognized stories on Earth. **Creator George Lucas** based many of his **ideas on real science**: so how much of it makes sense?

Could Lightsabers Work?

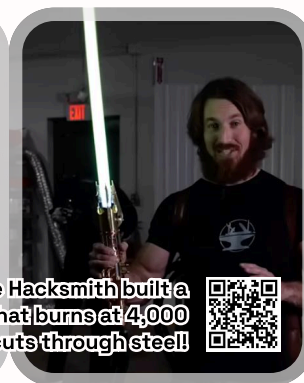
In the movies, Luke Skywalker uses a **lightsaber**, a glowing **blade of pure energy**, to fight his enemies and protect his friends. Could one actually work?

Well, factories already use **plasma cutters** that reach 40,000 degrees (four times hotter than the surface of the sun) to slice metal every day!

Plasma is the **fourth state of matter** after solid, liquid, and gas. When you heat a gas hot enough, the **atoms break apart and release electrically charged particles**. Lightning is plasma, the sun is plasma, and even the glow inside a neon sign is plasma.



A Canadian inventor called the Hacksmith built a retractable plasma blade that burns at 4,000 degrees and actually cuts through steel!



Kepler-16b (right) orbits two suns at once, just like Luke Skywalker's home planet Tatooine (left).



Real Planets That Look Like Star Wars Worlds

Here is where it gets exciting. NASA has found real planets that look like places from the movies.

Kepler-16b orbits **two suns at once**, just like Luke Skywalker's home planet Tatooine. **KELT-9b** is so hot it glows, like the lava world Mustafar. And icy moons in our own solar system, Europa and Enceladus, look a lot like the frozen planet Hoth!

Can Spaceships Really Go That Fast?

In Star Wars, ships jump to “**hyperspace**” and **zoom across the galaxy in minutes**. In real life, **nothing can travel faster than light**. That is one of the biggest rules in physics, discovered by **Albert Einstein**.

Light moves at 186,000 miles per second, and even at that speed, reaching the **nearest star from us (Proxima Centauri)** would take over **four years**!

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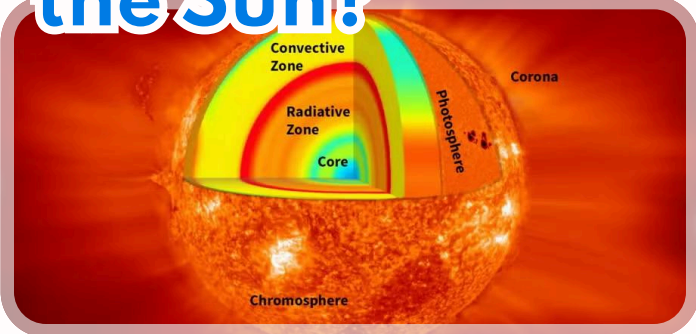
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The sun looks like a bright yellow ball in the sky. But up close, it is nothing like a ball you could touch. It is a giant fireball made of super-hot gas! The **surface** of the sun is hot enough to **melt** anything on Earth (even diamonds!).



How Hot Is the Sun?



Deep inside the sun, it gets even hotter. The center is the hottest part of the sun. That is where the sun makes its **energy** by squishing tiny particles together so hard that they create light and heat.

Even though the sun is very far away from the Earth, its heat still reaches us. That is how powerful it is. Without the sun, Earth would be a dark, frozen rock floating in space.

Words to remember!

- **surface:** the outside part of something, like the the skin of an apple
- **melt:** when something solid and hard gets so hot it turns into a drippy liquid
- **energy:** the power that makes things move, grow, or get hot

What do you think?

If the sun is so hot, why do you think we do not feel it burning us from far away?
