

# The interesting scientific knowledge that we missed while at school

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1. The facts about the universe amaze you
2. Hackers can track your keyboard typing order to steal information
3. Fearful truth: The mind still works even when the body is dead

## Liquid can boil and freeze at the same time

Water can exist in 3 forms: solid, liquid, gas. In addition, when temperature and pressure exist in thermodynamic equilibrium suitable for all three solid, liquid, gas - liquid phases - triple point, water can both boil and close tape at the same time.



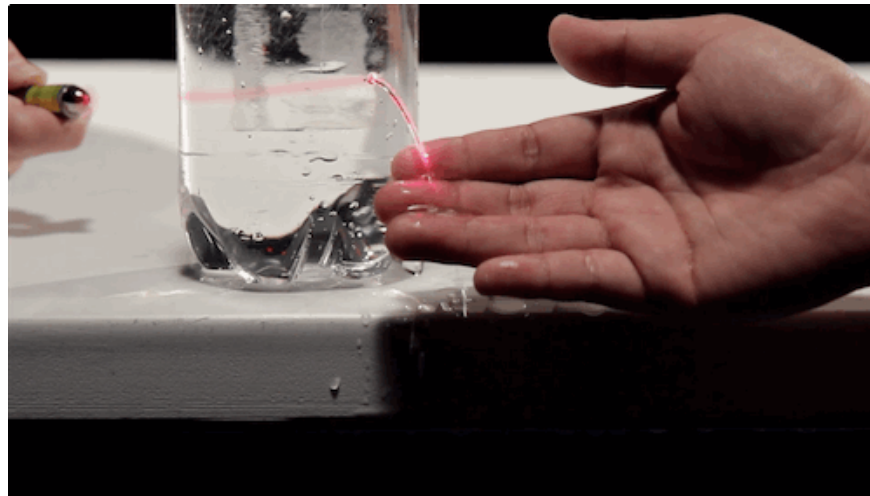
For water, the conditions for boiling and freezing at the same time are temperatures of  $0.01^{\circ}\text{C}$  and pressure of  $0.00603659\text{ atm}$ .

In the video, liquid cyclohexane is poured into a vessel in a vacuum state. Cyclohexane on the surface begins to freeze when the pressure in the flask decreases, the liquid below boiling, creating a continuous liquid-solid state transition.

## Laser is stuck in the water

Thanks to the total reflection, the light always goes straight.

Scientists at the University of Utah, USA have performed a "laser trap" experiment in the country. They chisel a small hole in the body of the bottle so that the water flows out, then they project the laser beam through the bottle to a certain angle.



At that time, the laser no longer holds the original straight line but bends in the water like being trapped in it. The reason is that when the laser beams on the water line is bent at a certain angle it will be refracted rather than continue straight. This process occurs continuously so that the entire ray of light will be bent according to the water jet.

### **What happens when an egg is caught in the sea?**

At a depth of 20m under the seabed, if you break an egg, the inside remains intact due to the pressure of surrounding sea water to play the role of eggshell.

The video is provided by the Bermuda Marine Science Institute (BIOS).

### **The tremendous speed of the spacecraft**

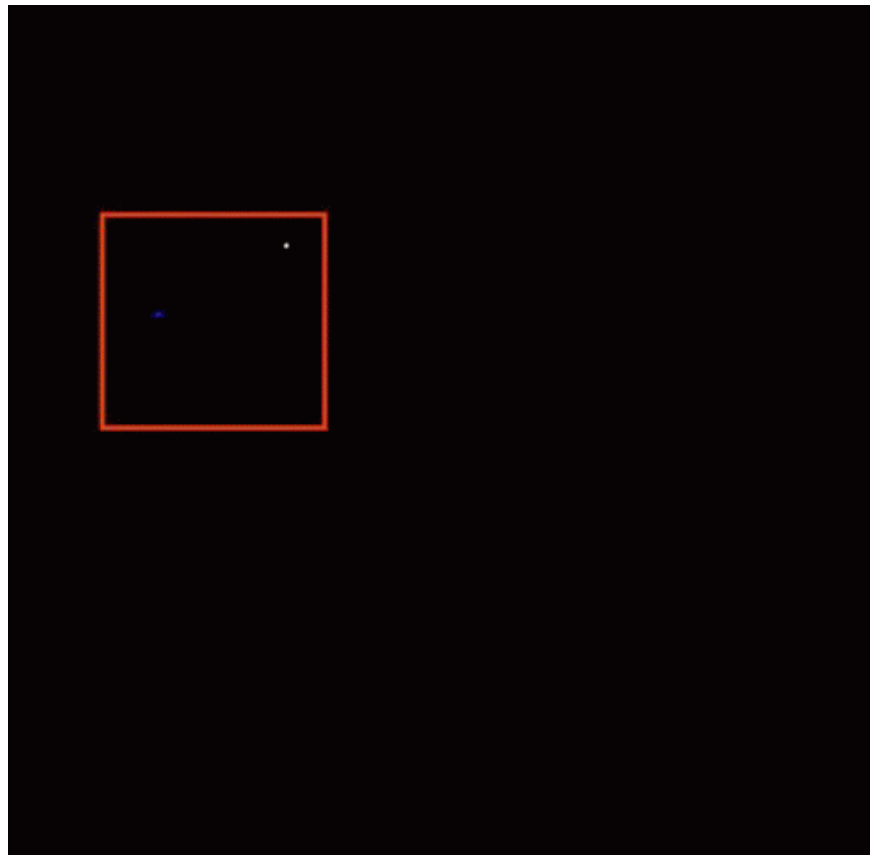
We all know the space rocket is extremely high speed, but it's hard to imagine how fast it is.

And the velocity comparison image of the New Horizons spacecraft (58,000 km / h) and the SR-71 Blackbird (the fastest plane currently, with a speed of 4,345 km / h) below will help you get the see more clearly about the tremendous speed of the spacecraft.



### **The moment the black hole swallowed a star**

The cosmic black hole has extremely strong gravity, anything including light is sucked in by it. But that doesn't mean being sucked in will sink into darkness.



When a star approaches the black hole, part of the debris will fall into the black hole. Some of the remaining debris will sprint at great speed to create a high-energy X-ray shape hundreds of light-years long.

Video released by the Goddard Space Research Center of the US Aeronautics Agency (NASA).

## **The power of explosions on the Sun.**

There are always intense radiation eruptions on the Sun, called the Sun flare. Each eruption, it could release a huge amount of energy, equivalent to millions of 100 megaton atomic bombs (1 megaton = 1 million tons of TNT explosives) exploded at the same time.