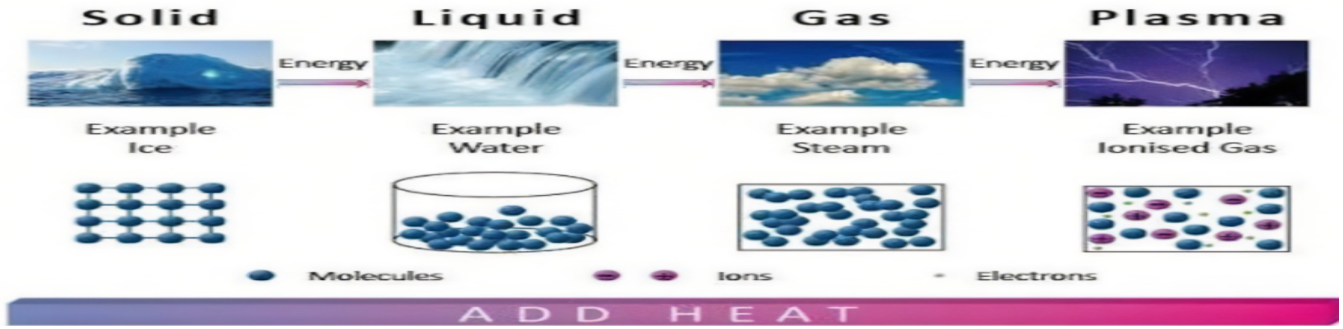
Plasma



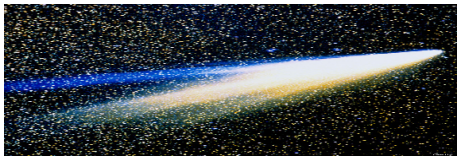
What Is Plasma | Properties of Matter | Chemistry | FuseSchool - YouTube

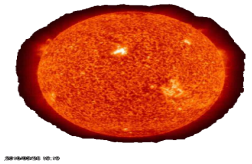
Plasma is superheated matter – so hot that the electrons are ripped away from the atoms forming an ionized gas.

It makes up over 99% of the visible universe.

Plasma is often called "the fourth state of matter," along with solid, liquid and gas.

Just as a liquid will boil, changing into a gas when energy is added, heating a gas will form a plasma – a soup of positively charged particles (ions) and negatively charged particles (electrons).





In the night sky, plasma glows in the form of stars, nebulas, and even the auroras that sometimes ripple above the north and south poles.

That branch of lightning that cracks the sky is plasma, so are the neon signs along our city streets. And so is our sun, the star that makes life on earth possible.

Here are 10 examples of forms of plasma:

1. lightning — How does lightning work? - YouTube

2. aurorae — Northern Lights — What is an aurora? - Michael Molina - YouTube

3. the excited low-pressure gas inside neon signs and fluorescent lights

4. solar wind

5. welding arcs — How Does a Plasma Cutter Work? (youtube.com)

6. the Earth's ionosphere

7. stars (including the Sun)

8. the tail of a comet — What is Plasma? (youtube.com)

9. interstellar gas clouds

10. a fireball of a nuclear explosion

Because so much of the universe is made of plasma, its behavior and properties are of intense interest to scientists in many disciplines. Importantly, at the temperatures required for the goal of practical fusion energy, all matter is in the form of plasma.

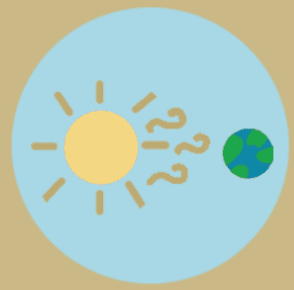
Researchers have used the properties of plasma as a charged gas to confine it with magnetic fields and to heat it to temperatures hotter than the core of the sun. Other researchers pursue plasmas for making computer chips, rocket propulsion, cleaning the environment, destroying biological hazards, healing wounds and other exciting applications.

Holding Plasma In My Hands - YouTube

Examples of Plasma

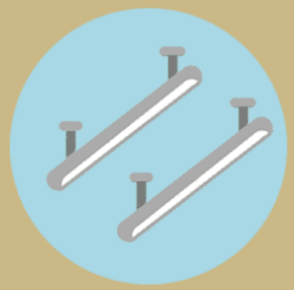
Plasma is a state of matter consisting of free charged particles.

Lightning



Solar Wind

Aurora



Fluorescent Light

Nuclear Fireball

ThoughtCo.