Atoms are constantly in motion moving around at speeds that are... thousands of miles per hour at room temperatures. In a collision of an atom with another atom, energy can be transferred. This extra energy can then be released in the form of light. Most light is produced by collisions of atoms with each other or with electrons.

WHERE CAN WE SEE THE EFFECTS OF ATOMS COLLIDING?

In a neon sign, an electric current runs through a tubular glass fixture that is filled with gas. This electric current causes collisions between the electrons and atoms in the neon gas. When various electrons relax, the energy released produces light that has a very specific color that invites us through the diner door.

Streams of particles with electric charge are continually leaving the Sun and traveling through the Solar System. As these particles approach the Earth, some of them are channeled by the planet’s magnetic field toward the North and South poles where they collide with atoms in the Earth’s atmosphere. This produces the famous light shows we call auroras, or more commonly in the Northern Hemisphere, the “Northern Lights.”

When a massive star explodes, it generates a blast wave that travels through space around the now-dead star. This wave heats the gas in this region to a temperature of several million degrees, making the molecules and atoms in the gas vibrate and collide. When the electrons in this superheated gas relax, they release their excess energy mostly in the form of X-ray light.

Although this region is millions of miles away, it is very important to our planet. This is because when this gas crosses Earth’s magnetic field, it can produce打开themagnetic field of Earth and cause the auroras. When streams of particles with electric charge collide with the Earth, they are channeled by our planet’s magnetic field toward the North and South poles where more collisions with atoms produce the auroras we see in the sky.

In a collision of an atom with another atom, energy can be transferred. This extra energy can then be released in the form of light. Most light is produced by collisions of atoms with each other or with electrons.

In a collision of an atom with another atom, energy can be transferred. This extra energy can then be released in the form of light. Most light is produced by collisions of atoms with each other or with electrons.