PRESENTATION

THEME: HYDROGEN

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Plan

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HYDROGEN - IS THE FIRST ELEMENT OF A PERIODIC SYSTEM; IS A SYMBOL **H**. ATOMIC MOLECULE 1,00797. IT IS THE NINTH LARGEST ELEMENT IN NATURE. ITS SHARE IS 1.4% OF THE EARTH'S CRUST, AND 63% IN SPACE.

HISTORY OF DISCOVERY

ENGLISH PHYSICIST AND CHEMIST HENRY CAVENDISH IN 1766 STUDIED THIS GAS AND CALLED IT «COMBUSTIBLE AIR».

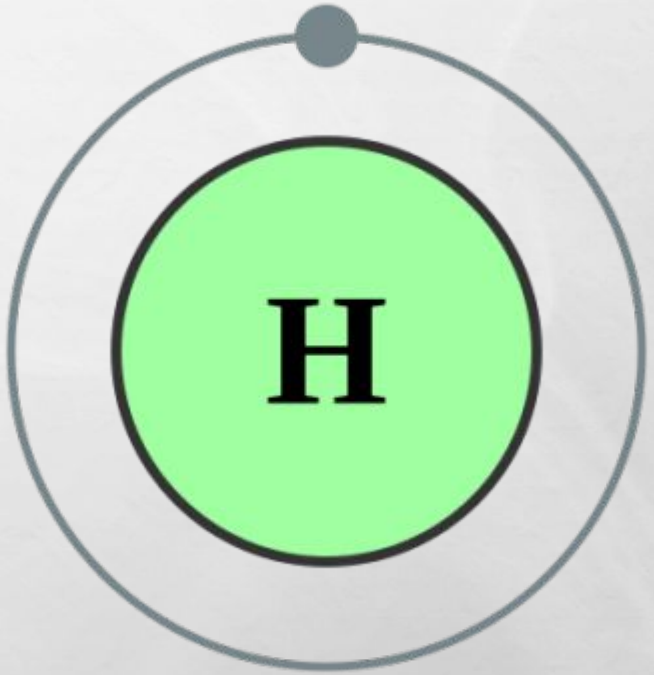
THE FRENCH CHEMIST ANTOINE LAVOISIER, TOGETHER WITH THE ENGINEER JEAN MOYNIER, USING SPECIAL GAS METERS, IN 1783 CARRIED OUT THE SYNTHESIS OF WATER, AND THEN AND ITS ANALYSIS, DECOMPOSING THE WATER VAPOR WITH A HOT IRON. SO HE ESTABLISHED THAT "COMBUSTIBLE AIR" IS PART OF THE WATER AND CAN BE DERIVED FROM IT.

PHYSICAL PROPERTIES

HYDROGEN – THE MORE LIGHTEST AND MORE WIDESPREAD ELEMENT IN UNIVER.

THE MAIN SOURCES OF HYDROGEN ON EARTH ARE WATER, OIL. IN SPACE THIS IS THE MOST WIDESPREAD ELEMENT: IT IS HALF THE MASS OF THE SUN AND OTHER STARS.

HYDROGEN – LIGHTNESS, INVISIBLE AND INODOROUS GAS. ITS 14.5 ONCE LIGHTER THAN AIR



PRECAUTIONARY MEASURES

HYDROGEN WHEN MIXED WITH AIR FORMS AN EXPLOSIVE MIXTURE - THE SO-CALLED EXPLOSIVE GAS. THE GREATEST EXPLOSIVE NATURE OF THIS GAS IS AT A 2: 1 RATIO OF HYDROGEN AND OXYGEN, OR HYDROGEN AND AIR, APPROXIMATELY 2: 5, BECAUSE IN AIR OXYGEN CONTAINS APPROXIMATELY 21%. ALSO HYDROGEN IS FIRE DANGEROUS. LIQUID HYDROGEN WHEN INGESTED ON THE SKIN CAN CAUSE SEVERE FROSTBITE.

ISOTOPES OF HYDROGEN

HYDROGEN IN NATURE OCCURS IN THE FORM OF THREE ISOTOPES THAT HAVE INDIVIDUAL NAMES AND CHEMICAL SYMBOLS: 1H - PROTIUM (H), 2H - DEUTERIUM (D), 3H - TRITIUM (T; RADIOACTIVE).

CHEMICAL INDUSTRY

- IN THE PRODUCTION OF AMMONIA, METHANOL, SOAP AND PLASTICS.
- AS THE CARRIER GAS IN GAS CHROMATOGRAPHY. DESPITE THE COMBUSTIBILITY OF HYDROGEN, ITS USE IN SUCH A ROLE IS CONSIDERED QUITE SAFE, SINCE THE RATE OF GAS CONSUMPTION IS USUALLY INSUFFICIENT TO REACH DANGEROUS CONCENTRATIONS IN THE ROOM. THE EFFICIENCY OF HYDROGEN AS A CARRIER GAS IS BETTER THAN THAT OF HELIUM, AT A MUCH LOWER COST.


THANK YOU FOR YOUR ATTENTION!
PLEASE CLAP AND DO NOT ASK MANY HARD QUESTIONS
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