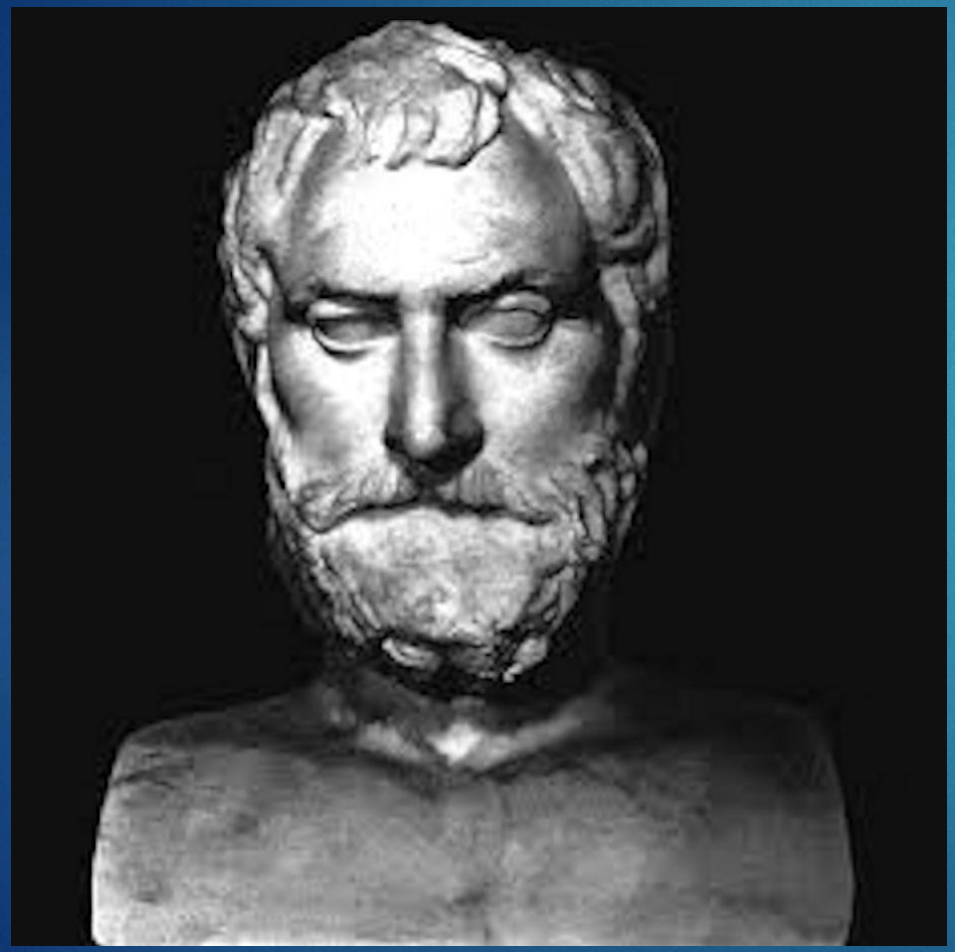
Electricity in nature

ВЫПОЛНИЛ: БАИШЕВ ИВАН

ГРУППА: МТЗ-12

- Electricity - a set of phenomena caused by the existence, interaction and movement of electrical charges.

Thales

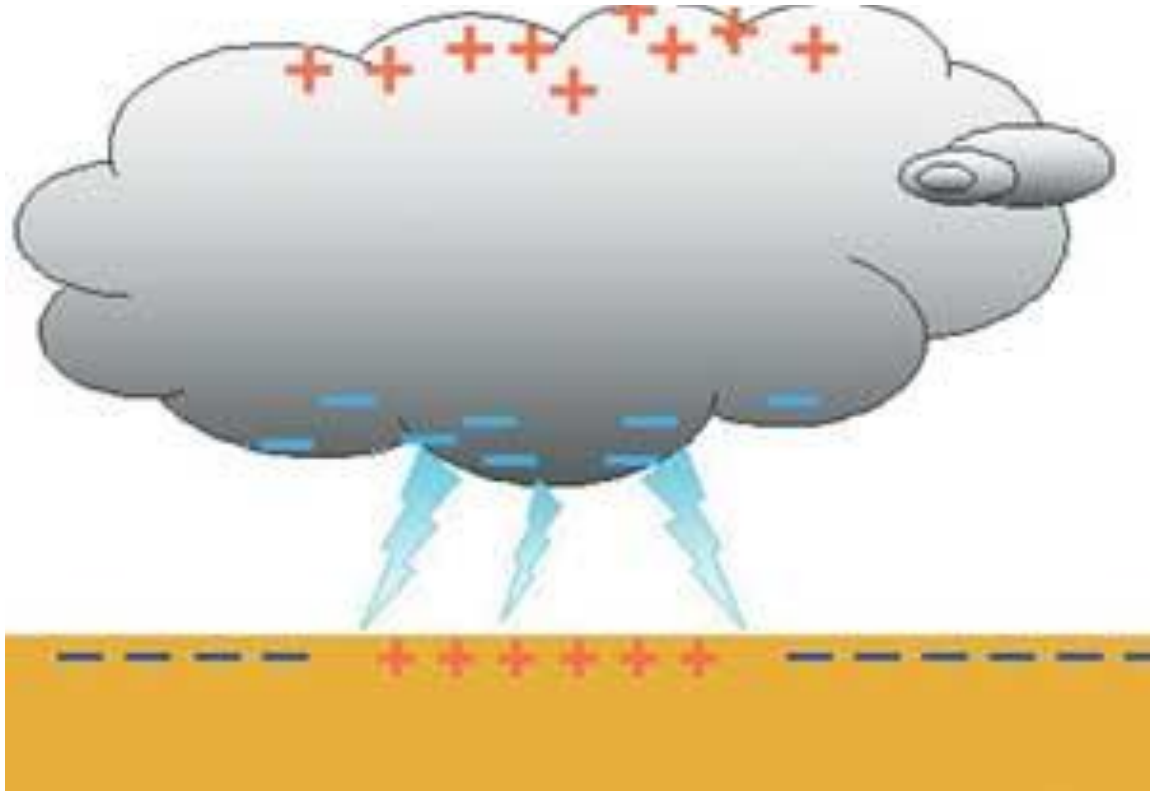


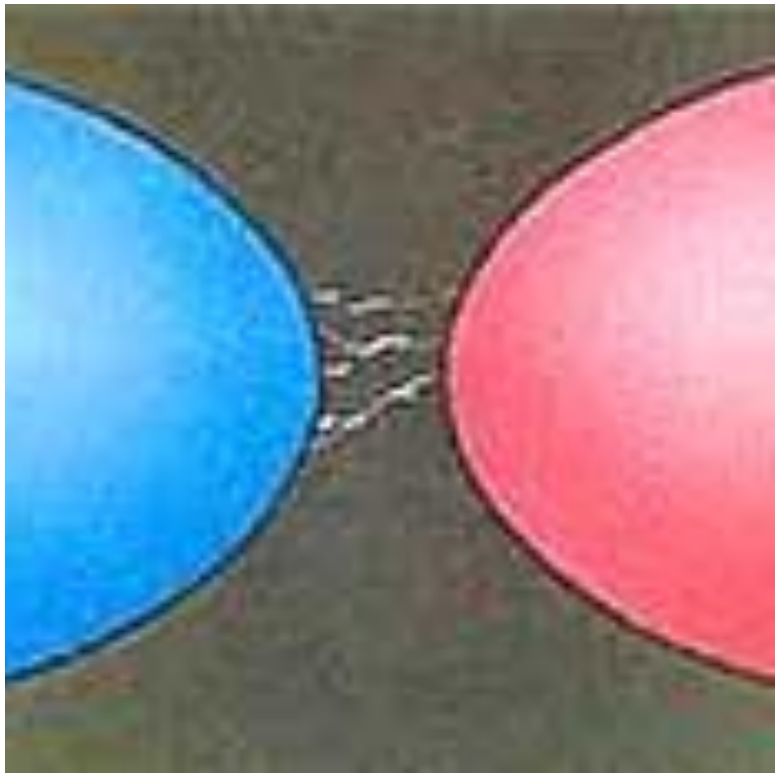
- The modern world is impossible without electricity. Now no one thinks about the technology of its production, and in ancient times did not even know such a word. But inquisitive minds were then. In 700 BC, the observant Greek philosopher Thales noticed that amber began to attract light objects when friction with wool occurred. This knowledge has been suspended

Electricity in nature

- A bright manifestation of electricity in nature is lightning, the electrical nature of which was established in the XVIII century. Lightning has long caused wildfires

- Lightning is a powerful electrical discharge. It occurs when there is a strong electrization of clouds or earth. Therefore, lightning discharges can occur either inside the cloud, or between adjacent electrified clouds, or between an electrified cloud and the earth. The lightning strike is preceded by the appearance of a difference in electrical potentials between adjacent clouds or between a cloud and the ground.





- When large oppositely charged regions come close enough to each other, some electrons and ions, running between them, create a luminous plasma channel along which the remaining charged particles follow them. So there is a lightning discharge.

- One lightning usually consists of several bits, each of which lasts only a few tens of parts per millionths of a second.
- Most often lightning occurs in cumulonimbus clouds. Lightning also occurs with volcanic eruptions, tornadoes and dust storms.
- There are several types of lightning in form and direction of discharge. Discharges can occur:
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between a thundercloud and earth,

between two clouds

inside the clouds

to leave the cloud into the clear sky.

- Thus, lightning is a breakdown of a capacitor, in which the dielectric is air, and the plates are clouds and earth. The capacitance of such a capacitor is small - about 0.15 μF, but the energy reserve is huge, since the voltage reaches a billion volts