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STUDY MATERIAL SCIENCE

CLASS-VIII

Date : 22-02-2021

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► Force and pressure

The Magdeburg Experiment :

The strength of atmospheric pressure was dramatically demonstrated by the seventh century German scientist Otto von Guericke.

He invented a pump to extract air from any vessel to create a vacuum and devised a novel experiment to demonstrate the power of air pressure.



For the experiment, he joined two close-fitting bronze hemispheres of 51 cm diameter each and pumped air out of them so that a vacuum was created inside the joined hemispheres. He then harnessed eight horses to each hemisphere to pull them apart.

The pressure of air on the hemispheres from outside was so large that eight horses could not pull the hemispheres apart. But as soon as air was introduced into the hemispheres, they easily came apart. This famous experiment gives an idea of the real magnitude of atmospheric pressure.